Jenkins Guide (MEC-based)

This section contains the guide to Jenkins.

General information - Jenkins:

Why do we need Jenkins?

To get approval of continuous integration continuous delivery/deployment (CICD) by the Akraino committee. i.e., By pushing the logs to Nexus Akraino Repository.

Who should push the logs? / Where should the logs be pushed?

- **who/from:** Jenkins setup in a lab (private/shared lab)
- **where/to:** Nexus Repository Manager - Akraino

Prerequisites:

Access to Nexus Akraino Repository. (How to get access of Nexus Akraino Repository?)

Jenkins for private lab:

Once you have completed the prerequisites. Now you are ready to:

- setup Jenkins locally
- push logs to Nexus Akraino Repository

Note: In this guide, we use docker container for Jenkins installation.

Setup Jenkins locally:

- Create a local directory on host-machine, where you want to store the container-logs:

> **Setup Volume for Jenkins container on Host-machine**
>
> ```
> mkdir /jenkins
> sudo chown -R 1000:1000 /jenkins/
> ```

- Install/setup Jenkins using the command:

> ```
> docker run --name JENKINS-CONTAINER-NAME --rm --detach --privileged --network jenkins --network-alias
> docker --volume /jenkins:/var/jenkins_home --publish 2376:2376 -p 80:8080 -p 50000:50000 mehmoodasif
> /jenkins
> ```

Setup credentials to access Nexus Akraino Repository:

- Create an a .netrc file as follows:

> **.netrc file**
>
> ```
> machine nexus.akraino.org login LFID_USERID password LFID_PASSWORD
> ```

- Copy the .netrc file to /jenkins/ directory of host-machine.

Push logs to Nexus Akraino Repository:

To push the logs using, you'll have to:

- write a script to push logs
- create/configure a job on your jenkins
- validate that the CICD logs on Nexus Akraino Repository

Write a script to push logs:

Create an .sh file. We named it as push-logs.sh:

An example (sh-script) to push logs to Nexus Akraino Repository

```
NEXUS_URL=https://nexus.akraino.org
SILO=<silo name provided above>
JENKINS_HOSTNAME=<hostname/IP of your Jenkins host>

# JOB_NAME and BUILD_NUMBER should be set by Jenkins
BUILD_URL="${JENKINS_HOSTNAME}/job/${JOB_NAME}/${BUILD_NUMBER}/"

NEXUS_PATH="${SILO}/job/${JOB_NAME}/${BUILD_NUMBER}"

lftools deploy logs $NEXUS_URL $NEXUS_PATH $BUILD_URL

echo "Logs uploaded to $NEXUS_URL/content/sites/logs/$NEXUS_PATH"
```

Create/configure a job on your Jenkins:

Follow these steps:

- Log into to Jenkins
- Through the Dashboard, go to New Item
- Enter an item name (in our case, we used push-logs)
- Select the Pipeline options shown
- Click OK
- In the General (tab), under the Pipeline section, Pipeline script option must be selected. And paste the below provided groovy script into the Script area. The script is as follows:
  Below line change-directory to where your script exists.

An example (groovy-script) to push logs to Nexus Akraino Repository

```
pipeline {
    agent none

    stages {
        stage ("push-logs-nexus") {
            agent any
            steps {
                sh "echo 'Start of job (push-logs)'"
                sh "pwd"
                dir("../scripts/") {
                    sh "pwd"
                    sh "./push-logs.sh"
                }
                sh "pwd"
                sh "echo 'End of job (push-logs)'"
            }
        }
    }
}
```

- Now you have to configure the job to load/run the script to push logs (wrote in the previous step). An example on how to is provided below:

Validate that the CICD logs on Nexus Akraino Repository:

Visit the associated repository to your blueprint. The logs must be there. In our case, the link is:

- https://nexus.akraino.org/content/sites/logs/jejunu-pred-vanet-mec/job/push-logs, in which:
    - *jejunu-pred-vanet-mec* is your blueprint's nexus repository
    - *push-logs* is your job name created on Jenkins