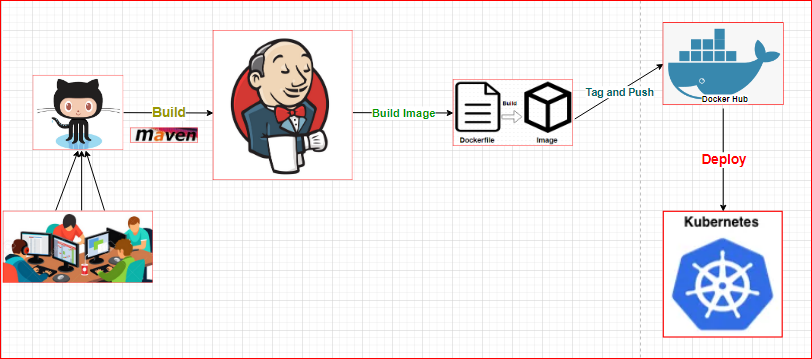
* **TASK –**

1. First Install Jenkins
2. Create a Kubernetes Cluster
3. Set up Jenkins server to deploy Applications in K8 cluster
4. Build and Deploy docker Applications from Jenkins into K8 cluster using CI/CD Pipeline

* **Flow**



* **Resources required on AWS Management console**

1. **Jenkins Server [Prefer machine size - t2.medium]**
2. **K8 Cluster**

* **PREREQUISITE**
* **Install Jenkins + GIT + Maven + Java + Docker + Kubelet on Ubuntu Server(Jenkins Server)**
* **Set up the k8 Cluster(1 Master[t2.medium] + 1 Worker[t2.micro]) as per below commands attached in the text pad**
* **Need a code repository from Github –**

[*https://github.com/mhali922/jenkins-docker-k8.git*](https://github.com/mhali922/jenkins-docker-k8.git)

The above repo contains the Docker file + Pom.xml + Java code + code for Jenkins pipelines that needs to be written into Jenkins while creating a Pipeline.

1. **INSTALL JENKINS –**

* First Install Java
* sudo apt update
* sudo apt install openjdk-8-jdk
* Install Jenkins
* wget -q -O - https://pkg.jenkins.io/debian/jenkins.io.key | sudo apt-key add –
* sudo sh ‘echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/Jenkins.list’
* sudo apt update
* sudo apt install Jenkins
* sudo systemctl status Jenkins

After the installation of Jenkins at Ubuntu server, access Jenkins from web-browser using server’s PUBLIC IP address –

1. Setting up Docker on Jenkins Server –

* Install Docker
* curl –fsSL get.docker.com | /bin/bash
* Add Jenkins user to docker group
* sudo usermod –aG docker Jenkins
* Restart Jenkins
* sudo systemctl restart jenkins

1. Setup Kubernetes cluster as per below commands –

**Execute below commands on both Master-Slave -**

sudo apt-get update -y

sudo apt-get install -y apt-transport-https

sudo su -

curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-ket add -

cat <<EOF >/etc/apt/sources.list.d/kubernetes.list

deb http://apt.kubernetes.io/ kubernetes-xenial main

EOF

apt-get update -y

swapoff –a

<< Copy from personal machine >>

**Execute only on master Machine -**

Configuration on Jenkins –

