SUGGESTIONS ON HOW ONE CAN IMPROVE THE CI/CD IN KUBERNETES

Kubernetes is a very useful tool that can help in the container orchestration, and in the reduction of error margins when it comes to mission critical company-wide applications and services.   
Main notable benefits of kubernetes from my understanding include:-

* 1. Service discovery, separation of concerns and loadbalancing which helps in distribution of workloads and also distribute traffic to various pods or containers so as to deliver seemless service.
  2. One is able to mount block storages seemlessly thus offering flexibility.
  3. They offer a form of CI-CD pipeline that ensures automaed rollouts of application versions and rollbacks for either testing and step by step releases of new software.
  4. A clear and precise way to specifiy the amount of resources requires and managing the resources seemlessly to the cluster.
  5. Self healing: In the case that a k8s object fails or is erroneous, kubernetes performs self healing ensuring high availablilty of software and releases as well as packages.

Despite the fact that k8s offers CI/CD out of the box, it is not the most optimized and we can still have a couple of improvements to the process. For instance, there are various CI/CD platforms that perform seemless integration with kubernetes such as jenkins and travisci. Notable CI/CD platform that are good for consideration include Gitlab CI, Buildbot, Drone and concourse.

**Why Jenkins:**

Jenkins is a well known CI/CD player in the market that has been there over the years. They have gradually evolved into a reliable, powerful and flexible tool. Jenkin comes with numerous notable and reliable plugins that can be used in the automation, efficiency, multi-system integrations.

Jenkin provide the capability to define project specific slaves that are available at all times and on demand instead of wasting a whole lot of resources waiting on the same job. Jenkins also leverages on the master -agent architecture which is usefful in the automation of the creation and deployment of microservices and thus also offering the ability to set up different pipelines and stages that aid in the testing and troubleshooting of newfeatures and bug fixes before releasing them to the general public. Jenkins offers the flexibility to integrate it with one’s working setup of which once it is set up it is fully automated.