CI/CD write up:

CI/CD stands for continuous integration and continuous deployment. Generally, CI/CD process starts with git and GitLab. Gitlab is a source code repository where multiple developers collaborate with each other.

Git helps developers to track the changes in the code and merge the newly updated code in GitLab (remote repo). We can consider Git is a version control tool and Gitlab is a version control system.

When a developer wants to make any changes to existing code or add new code, first, the developer clones the remote repo and gets the code in local machine using git. Similarly, after making changes, the code is pushed to remote repository through git. While making changes, the git helps developer to track and manage the changes in local machine.

Another component of CI/CD process is Docker build. It starts with Docker file. The Docker file contains a base image. The Docker file provides a copy . . function by which Docker copies all code files, run environment, dependencies(requirements.txt) from project which we have in GitLab.

To run our code/application from server, we would need two other files named Kubernetes and Jenkins. Basically, these files help to configure our code/application to the server and pass the security from production environment. Once all these files are setup in GitLab, we run the Jenkins pipeline by which all the files bundle up which creates Docker image while running the pipeline.

Once the pipeline is completed, it deploys the docker image in rancher. And We can run Docker images in any environment. And the Running state of Docker image is called container. We can run the docker image manually. But if we want to run the image automacially, we should setup cronjob