KUBERNETES DEPLOYMENT CI WITH GITHUB ACTIONS CD WITH RANCHER.

INSTALL RANCHER

\$ sudo docker run --privileged -d --restart=unless-stopped -p 80:80 -p 443:443 rancher/rancher This will deploy a rancher container on docker and create a local k8s cluster.

\$docker exec -it <>container-id> /bin/bash

With this we can exec in the docker container as docker creates its own virtualized environment.

CREATE NODE REPO AND SETTING UP THE GITHUB ACTION PIPELINE

After pushing code, we will create an action pipeline.

```
name: ci
on:
 push:
   branches:
     - 'master'
jobs:
  docker:
    runs-on: ubuntu-latest
    steps:
        name: Set up QEMU
       uses: docker/setup-gemu-action@v2
        name: Set up Docker Buildx
        uses: docker/setup-buildx-action@v2
        name: Login to Docker Hub
        uses: docker/login-action@v2
        with:
          username: ${{ secrets.DOCKERHUB_USERNAME }}
          password: ${{ secrets.DOCKERHUB_PASSWORD }}
        name: Build and push
        uses: docker/build-push-action@v4
        with:
          push: true
         tags: vishalkrpal/nodeapp:latest
```

CREATING HELM CHART FOR DEPLOYMENT ON RANCHER VALUES.YML

```
replicaCount: 1
image:
 repository: vishalkrpal/nodeapp
 pullPolicy: Always
 # Overrides the image tag whose default is the chart
tag: latest
imagePullSecrets: []
nameOverride: ""
fullnameOverride: ""
serviceAccount:
 # Specifies whether a service account should be crea
 create: true
 annotations: {}
 # If not set and create is true, a name is generated
 name: ""
podAnnotations: {}
podSecurityContext: {}
# fsGroup: 2000
securityContext: {}
service:
 type: NodePort
 port: 8000
```

CREATING A REPO WORKFLOW FOR HELM DEPLOYMENT

```
name: Helm CI
# Controls when the workflow will run
on:
 # Triggers the workflow on push or pull request events but only for the "master" branc
   branches: [ "master" ]
 pull_request:
   branches: [ "master" ]
 # Allows you to run this workflow manually from the Actions tab
 workflow_dispatch:
# A workflow run is made up of one or more jobs that can run sequentially or in parallel
jobs:
 # This workflow contains a single job called "build"
 build:
   # The type of runner that the job will run on
   runs-on: ubuntu-latest
   # Steps represent a sequence of tasks that will be executed as part of the job
   steps:
     # Checks-out your repository under $GITHUB_WORKSPACE, so your job can access it
      - uses: actions/checkout@v3
     # Runs a single command using the runners shell
      - name: Run a one-line script
       run: echo Hello, world!
     # Runs a set of commands using the runners shell
      - name: Run a multi-line script
       run:
         echo Add other actions to build,
         echo test, and deploy your project.
```

We have to manually trigger the helm workflow as GITHUB ACTIONS does not provide the feature to trigger workflow in other repo after one is completed. But this feature is available on bitbucket.

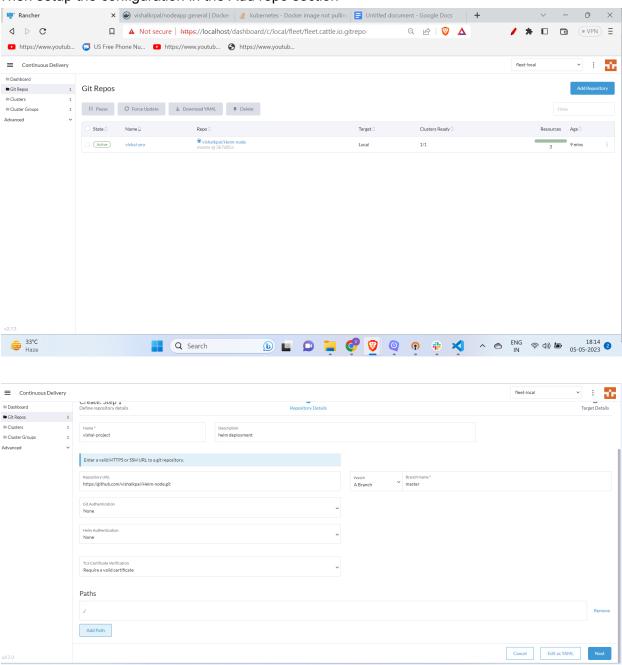
This pipeline just triggers the commit action so rancher syncs with the latest changes.

CONFIGURING RANCHER CONTINUOUS DELIVERY

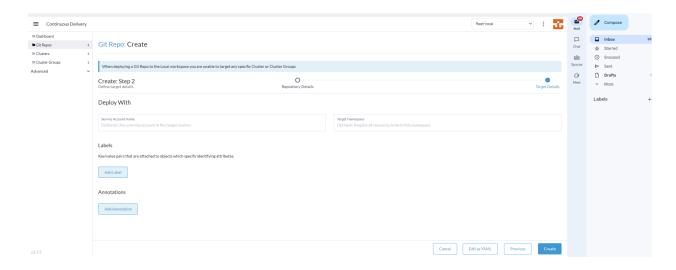
Goto -> continuous delivery

Choose cluster on top

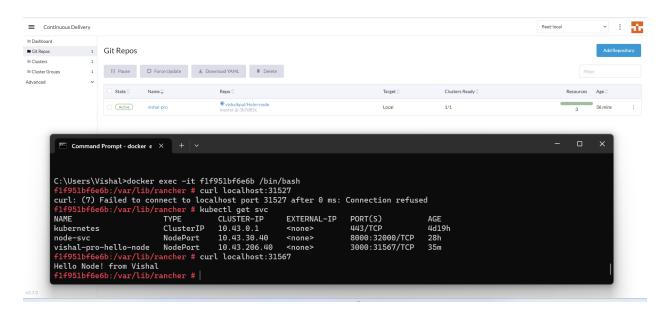
Then setup the configuration in the Add repo section



We can add labels and annotations depending on our needs.



Click "CREATE"



Thanks Vishal kumar pal