Reddit-clone project

Root user

Updating base machine and installing docker

To avoid the issue with permissions use the usermod command and then clone the GITHUB Repository.

Then navigate into the ingress folder

Build the docker file

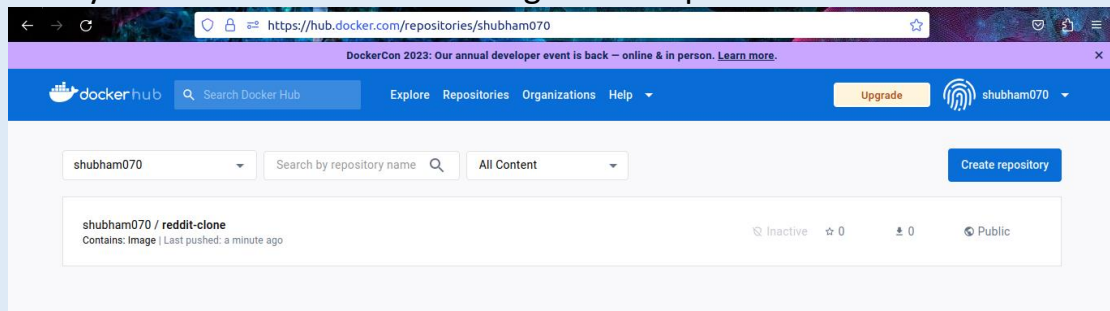Log into Docker hub account to connect the CI server and docker hub give your docker hub username and password

Now push the docker image to docker hub

```
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$ docker push shubham070/reddit-clone:latest
The push refers to repository [docker.io/shubham070/reddit-clone]
1b0d5c9b0be8: Pushed
78899844e07e: Pushed
faf69d17063e: Pushed
d97848c55fb2: Mounted from library/node
56b9297a1b86: Mounted from library/node
df158e75fd32: Mounted from library/node
34d5ebaa5410: Mounted from library/node
latest: digest: sha256:16de63ac6f63e378fa456464aacff0ed11d166040c7d4328203bbb89830d6d79 size: 1789
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$
```
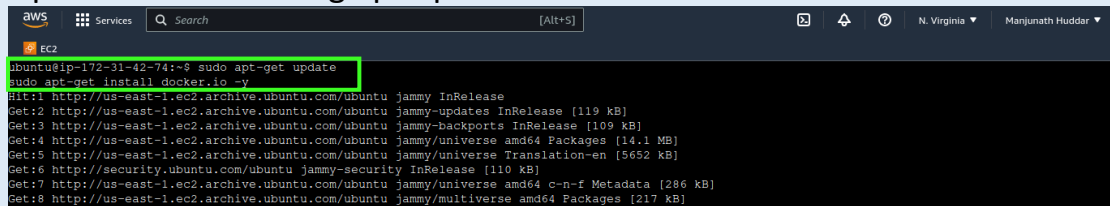
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Now you can see reddit-clone image is been pushed in the docker hub

← → C   🔒 https://hub.docker.com/repositories/shubham070   ☆   ⊘ ⬇ ⋮ ≡

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🐳 docker hub   🔍 Search Docker Hub   Explore   Repositories   Organizations   Help ▼   Upgrade   👤 shubham070 ▼

shubham070   ▼   Search by repository name 🔍   All Content   ▼   Create repository

shubham070 / **reddit-clone**
Contains: Image | Last pushed: a minute ago   ⊘ Inactive   ☆ 0   ⬇ 0   ☁ Public

KUBERNETES MACHINE:

Move to kubernetes machine and install minikube
Update machine using apt update command and install docker

aws   ☷ Services 🔍 Search   [Alt+S]   ⊡ ⬠ ⑦ N. Virginia ▼   Manjunath Huddar ▼
⬡ EC2

```
ubuntu@ip-172-31-42-74:~$ sudo apt-get update
sudo apt-get install docker.io -y
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
```

Install minikube

```
ubuntu@ip-172-31-42-74:~$ sudo usermod -aG docker $USER && newgrp docker
ubuntu@ip-172-31-42-74:~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube

sudo snap install kubectl --classic
minikube start --driver=docker
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 82.4M  100 82.4M    0     0   105M      0 --:--:-- --:--:-- --:--:--  105M
kubectl 1.28.1 from Canonical✓ installed
* minikube v1.31.2 on Ubuntu 22.04 (xen/amd64)
* Using the docker driver based on user configuration
* Using Docker driver with root privileges
* Starting control plane node minikube in cluster minikube
* Pulling base image ...
* Downloading Kubernetes v1.27.4 preload ...
    > gcr.io/k8s-minikube/kicbase...:  447.62 MiB / 447.62 MiB  100.00% 72.17 M
    > preloaded-images-k8s-v18-v1...:  393.21 MiB / 393.21 MiB  100.00% 52.06 M
* Creating docker container (CPUs=2, Memory=2200MB) ...-
```

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Create a Deployment file with the Docker hub image for the application and deploy it.

Deployment.yml

```
ubuntu@ip-172-31-42-74:~$ mkdir k8s
ubuntu@ip-172-31-42-74:~$ cd k8s/
ubuntu@ip-172-31-42-74:~/k8s$ vim Deployment.yml
ubuntu@ip-172-31-42-74:~/k8s$ kubectl apply -f Deployment.yml
deployment.apps/reddit-clone-deployment created
ubuntu@ip-172-31-42-74:~/k8s$
```

Check the deployment file.

```
ubuntu@ip-172-31-42-74:~$ mkdir k8s
ubuntu@ip-172-31-42-74:~$ cd k8s/
ubuntu@ip-172-31-42-74:~/k8s$ vim Deployment.yml
ubuntu@ip-172-31-42-74:~/k8s$ kubectl apply -f Deployment.yml
deployment.apps/reddit-clone-deployment created
ubuntu@ip-172-31-42-74:~/k8s$ kubectl get  Deployment
NAME                     READY   UP-TO-DATE   AVAILABLE   AGE
reddit-clone-deployment  2/2     2            2           33s
ubuntu@ip-172-31-42-74:~/k8s$
```

Create a service.yml file to enable the port

```
ubuntu@ip-172-31-42-74:~$ mkdir k8s
ubuntu@ip-172-31-42-74:~$ cd k8s/
ubuntu@ip-172-31-42-74:~/k8s$ vim Deployment.yml
ubuntu@ip-172-31-42-74:~/k8s$ kubectl apply -f Deployment.yml
deployment.apps/reddit-clone-deployment created
ubuntu@ip-172-31-42-74:~/k8s$ kubectl get  Deployment
NAME                     READY   UP-TO-DATE   AVAILABLE   AGE
reddit-clone-deployment  2/2     2            2           33s
ubuntu@ip-172-31-42-74:~/k8s$ vim Service.yml
ubuntu@ip-172-31-42-74:~/k8s$ kubectl apply -f Service.yml
service/reddit-clone-service created
ubuntu@ip-172-31-42-74:~/k8s$
```

Create the service

```
ubuntu@ip-172-31-42-74:~/k8s$ kubectl apply -f Service.yml
service/reddit-clone-service created
ubuntu@ip-172-31-42-74:~/k8s$ minikube service reddit-clone-service --url
http://192.168.49.2:31000
ubuntu@ip-172-31-42-74:~/k8s$ curl -L http://192.168.49.2:31000
```

Create the url

```
ubuntu@ip-172-31-42-74:~/k8s$ minikube service reddit-clone-service --url
http://192.168.49.2:31000
ubuntu@ip-172-31-42-74:~/k8s$ curl -L http://192.168.49.2:31000
```
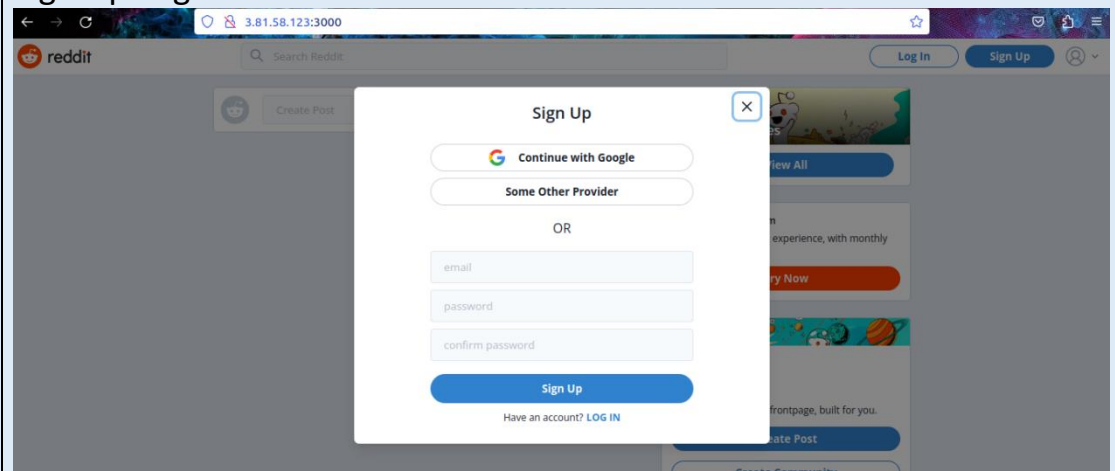
Expose the deployment


```
ubuntu@ip-172-31-42-74:~/k8s$ kubectl expose deployment reddit-clone-deployment --type=NodePort
service/reddit-clone-deployment exposed
ubuntu@ip-172-31-42-74:~/k8s$ kubectl port-forward svc/reddit-clone-service 3000:3000 --address 0.0.0.0
Forwarding from 0.0.0.0:3000 -> 3000
```
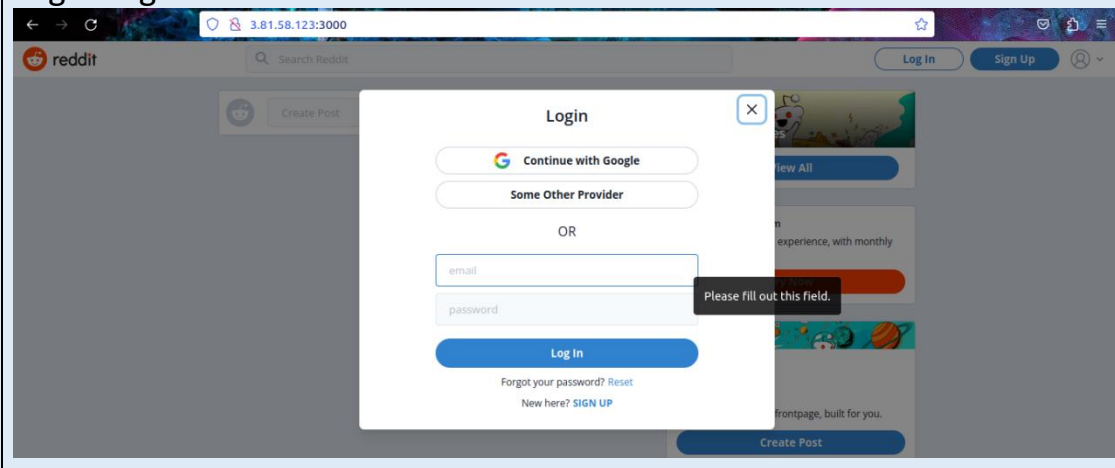
Testing the application
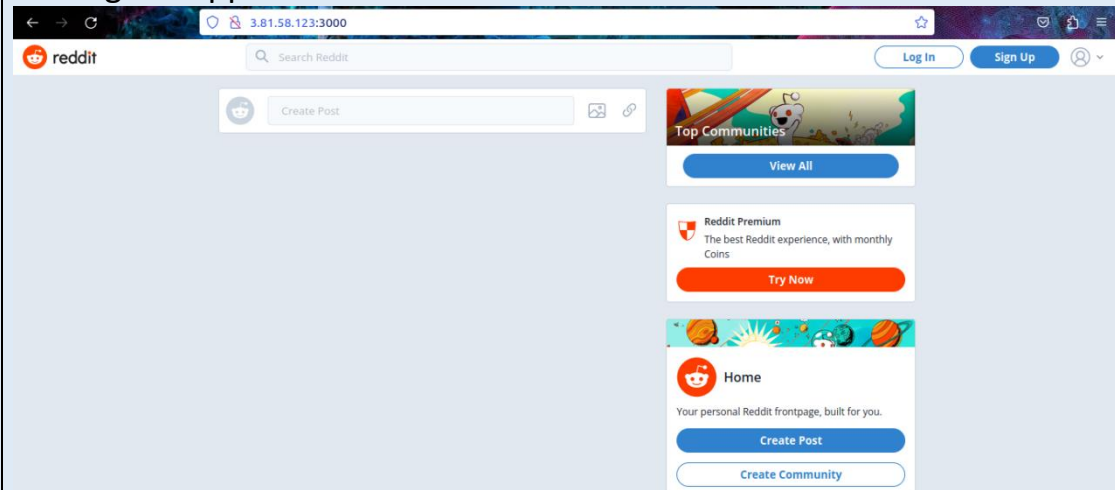
Sign Up Page

Login Page

Enable Ingress in Minikube

```
ubuntu@ip-172-31-42-74:~/k8s$ minikube addons enable ingress
* ingress is an addon maintained by Kubernetes. For any concerns contact minikube on GitHub.
You can view the list of minikube maintainers at: https://github.com/kubernetes/minikube/blob/master/OWNERS
    - Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20230407
    - Using image registry.k8s.io/ingress-nginx/controller:v1.8.1
    - Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v20230407
* Verifying ingress addon...
* The 'ingress' addon is enabled
ubuntu@ip-172-31-42-74:~/k8s$
```

Apply ingress

```
ubuntu@ip-172-31-42-74:~/k8s$ vim ingress.yml
ubuntu@ip-172-31-42-74:~/k8s$ kubectl apply -f ingress.yml
ingress.networking.k8s.io/ingress-reddit-app created
ubuntu@ip-172-31-42-74:~/k8s$
```

Deploying a Reddit Clone with Ingress in Kubernetes using Minikube.

```
ubuntu@ip-172-31-42-74:~/k8s$ curl -L domain.com/test
          <!DOCTYPE html>
<!--[if lt IE 7]> <html class="no-js lt-ie9 lt-ie8 lt-ie7" lang="en"> <![endif]-->
<!--[if IE 7]>    <html class="no-js lt-ie9 lt-ie8" lang="en"> <![endif]-->
<!--[if IE 8]>    <html class="no-js lt-ie9 " lang="en"> <![endif]-->
<!--[if IE 9]>    <html class="no-js lt-ie10" lang="en"> <![endif]-->
<!--[if gt IE 9]><!--> <html class="no-js" lang="en"> <!--<![endif]-->


<head>
    <title>Domain.com | 404 Error | Domain.com</title>
    <meta name="keywords" content="web hosting, domain names, web site, search engine optimization, hosting, servers">
    <meta name="viewport" content="initial-scale=1.0,width=device-width">
    <meta name="revisit-after" content="5 days">
    <meta name="description" content="Small business web hosting offering additional business services such as: domain name registrations, email account
s, web services, online community resources and various small business solutions.">
    <meta name="rating" content="General">
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <link rel="shortcut icon" type="image/x-icon" href="/favicon.ico" />


    <link rel="apple-touch-icon" href="/static/img/icons/touch-icon-iphone.png" />
```

Name: Manjunath Huddar