

Reddit-clone project

Root user

Updating base machine and installing docker

```
ubuntu@ip-172-31-46-247:~$ 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://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [785 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [163 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [11.2 kB]
```

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

```
ubuntu@ip-172-31-46-247:~$ sudo usermod -sG docker $USER && newgrp docker
ubuntu@ip-172-31-46-247:~$ git clone https://github.com/Shubham070mad/reddit-clone-k8s-ingress.git
Cloning into 'reddit-clone-k8s-ingress'...
remote: Enumerating objects: 166, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (10/10), done.
remote: Total 166 (delta 11), reused 9 (delta 9), pack-reused 147
Receiving objects: 100% (166/166), 1.46 MiB | 23.66 MiB/s, done.
Resolving deltas: 100% (23/23), done.
ubuntu@ip-172-31-46-247:~$
```

Then navigate into the ingress folder

```
ubuntu@ip-172-31-46-247:~$ ls
reddit-clone-k8s-ingress
ubuntu@ip-172-31-46-247:~$ cd reddit-clone-k8s-ingress/
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$ ls
Dockerfile deployment.yml functions next-env.d.ts package-lock.json public src
README.md firebase.json ingress.yml next.config.js package.json service.yml tsconfig.json
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$
```

Build the docker file

```
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$ vim Dockerfile
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$ docker build . -t shubham070/reddit-clone:latest
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  4.031MB
Step 1/6 : FROM node:19-alpine3.15
19-alpine3.15: Pulling from library/node
9621flafde84: Pull complete
79ef350afea0: Pull complete
d3ad581b5912: Pull complete
ee1cc07adb60: Pull complete
Digest: sha256:12d9c7253f232bb88a9ef6d6e974afd90e296cb8383572dbb7f28c39f828b07e
Status: Downloaded newer image for node:19-alpine3.15
----> e5f532dbeb15
Step 2/6 : WORKDIR /reddit-clone
----> Running in 62a508cd2ce7
Removing intermediate container 62a508cd2ce7
----> dc2a5f996721
```

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

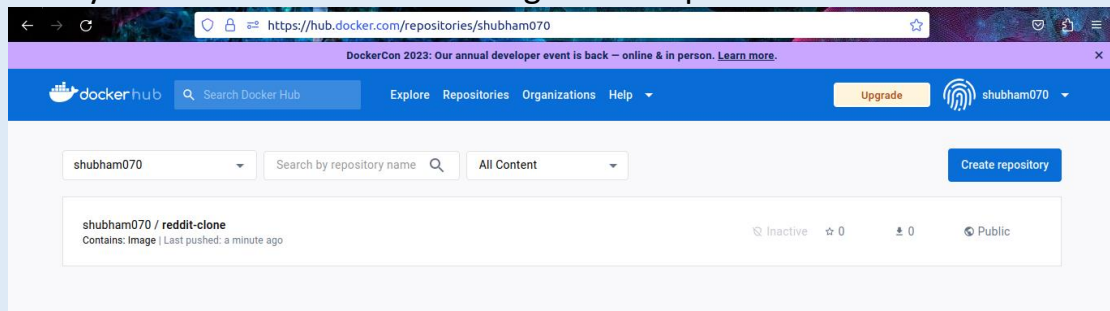
```
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: shubham070
Password:
WARNING! Your password will be stored unencrypted in /home/ubuntu/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$
```

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: sha256:16de63ac6f63e378fa456464aacff0ed1d166040c7d4328203bbb89830d6d79 size: 1789
ubuntu@ip-172-31-46-247:~/reddit-clone-k8s-ingress$
```

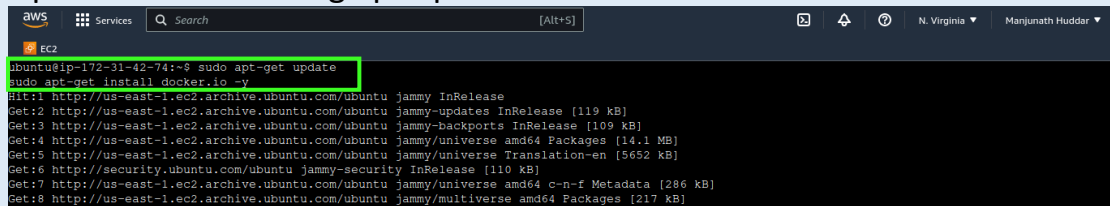
Now you can see reddit-clone image is been pushed in the docker hub



KUBERNETES MACHINE:

Move to kubernetes machine and install minikube

Update machine using apt update command and install docker



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 kubect1 --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
kubect1 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) ...-
```

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

Deployment.yml

```
aws Services Search [Alt+S] N. Virginia Manjunath Huddar
EC2
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.

```
aws Services Search [Alt+S] N. Virginia Manjunath Huddar
EC2
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

```
aws Services Search [Alt+S] N. Virginia Manjunath Huddar
EC2
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
```

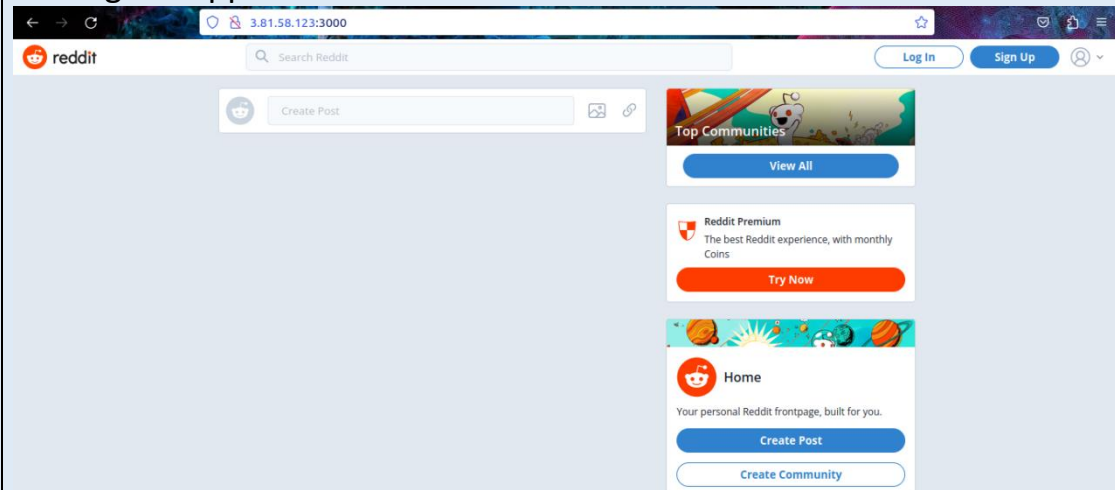
Create the url

```
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
```

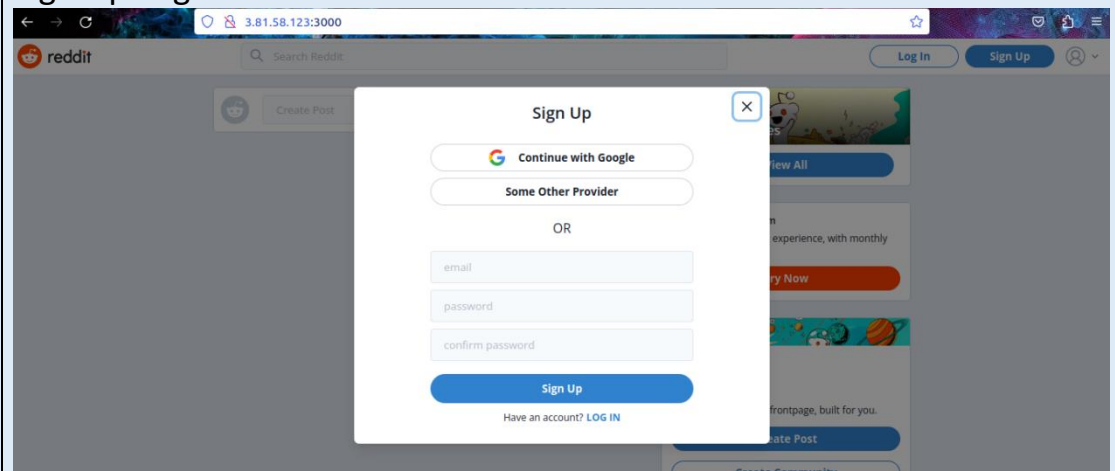
Expose the deployment

```
aws
Services
Search
[Alt+S]
EC2
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
```

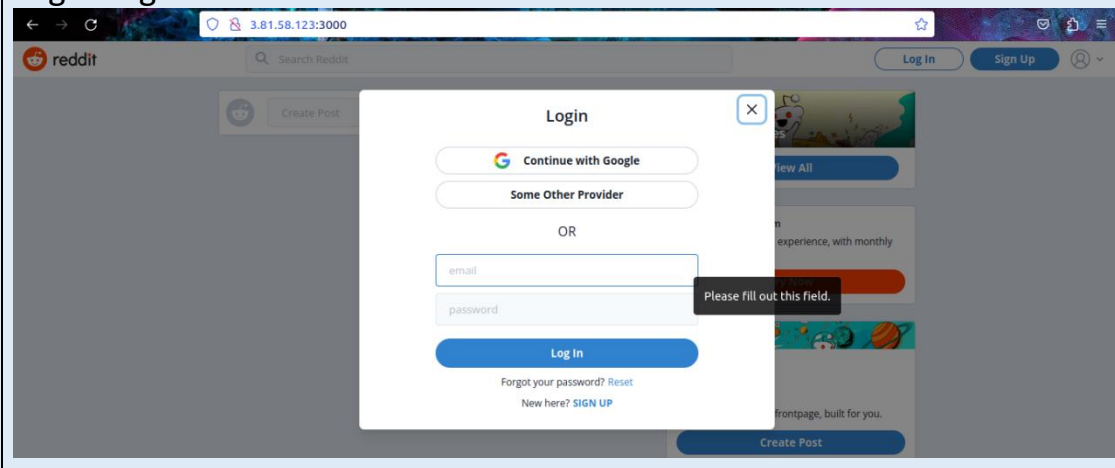
Testing the application



Sign Up Page



Login Page



Enable Ingress in Minikube

```
aws Services Search [Alt+S]
EC2
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

```
aws Services Search [Alt+S]
EC2
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" />

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences
```

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