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Cloud devops end sem project:

Deploying ML models using flask , Docker and Kubernetes

INTRODUCTION:

To Build a ML Web applica0on, Dockerized and Deploy on Kubernetes

FLOW OF THE PROJECT DEPLOYMENT:

STEPS:

1 Build your Flask app

2 Dockerize the Flask app by creating a Docker file.

3 Build a Docker image of your Flask app.

4 Push the Docker image to a Docker registry (e.g., Docker Hub) 5 Create a Kubernetes cluster on AWS

6 Deploy a Kubernetes deployment object to run your Docker image as a container in the cluster

7 Create a Kubernetes service object to expose your Flask app to the internet

Tools used :

Github

Docker

Flask

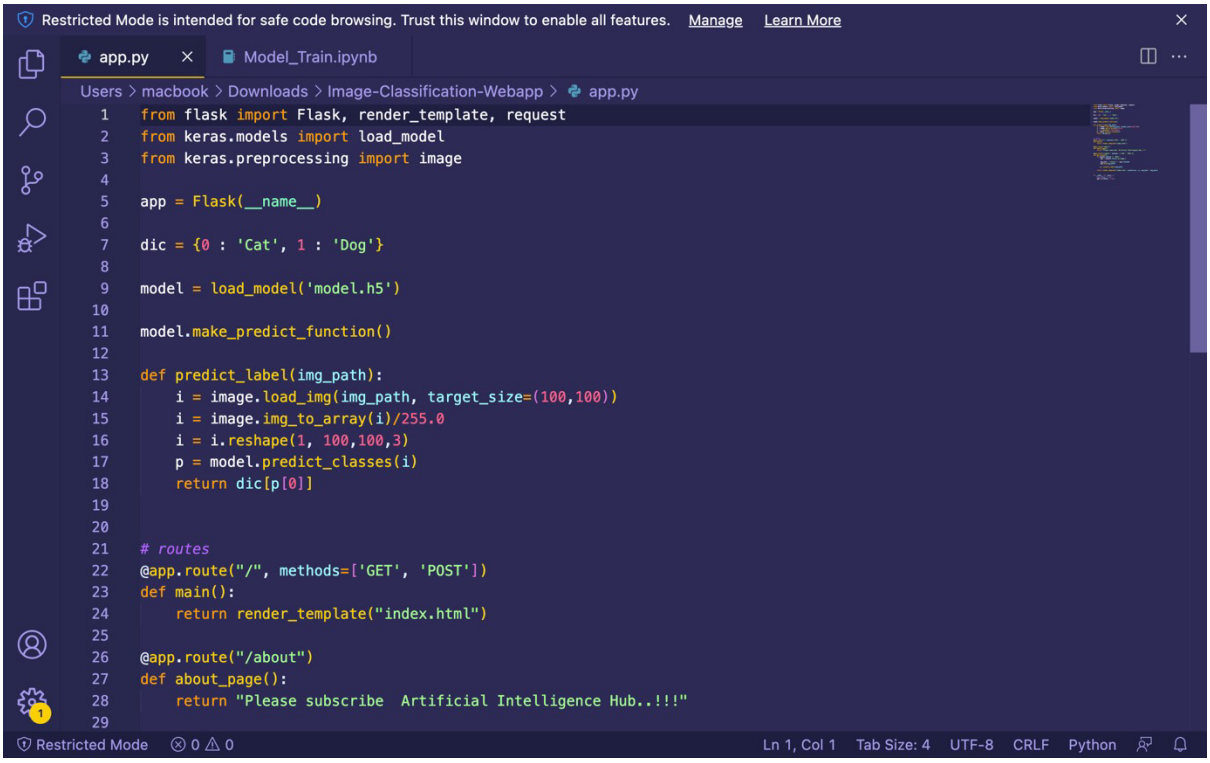
Ecr

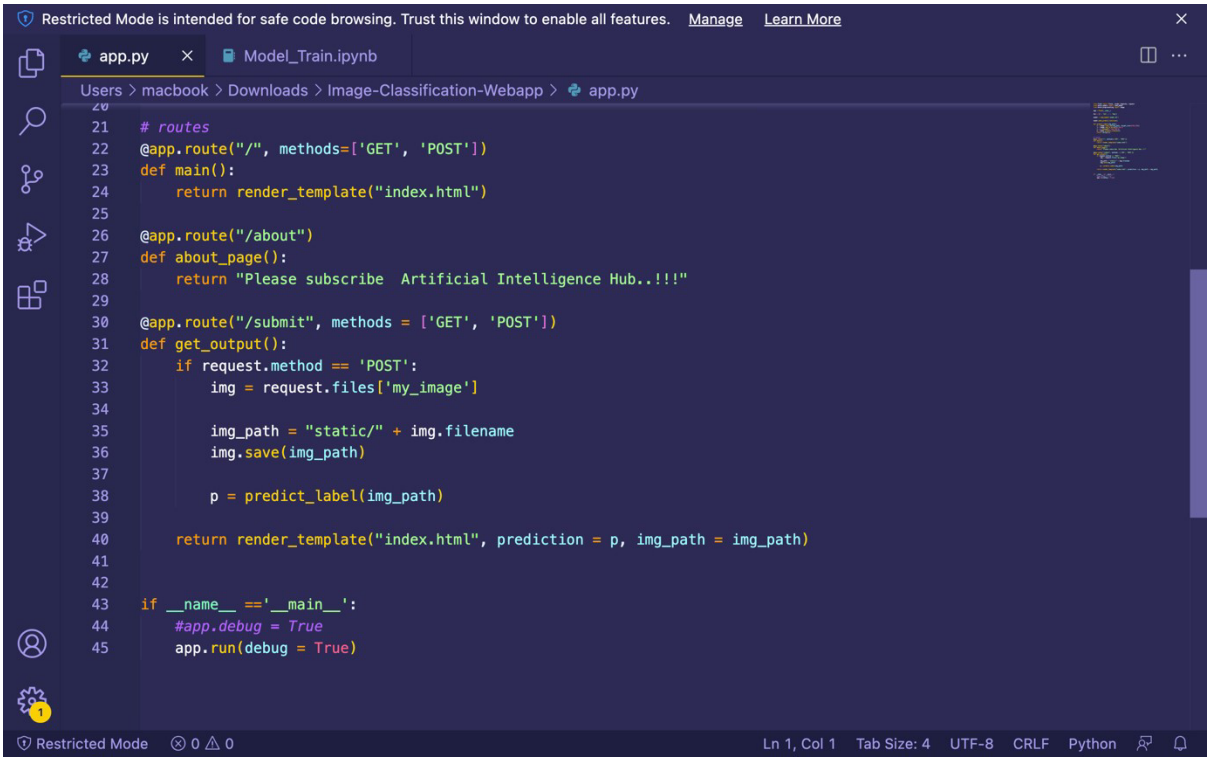
Iam

kubernetes

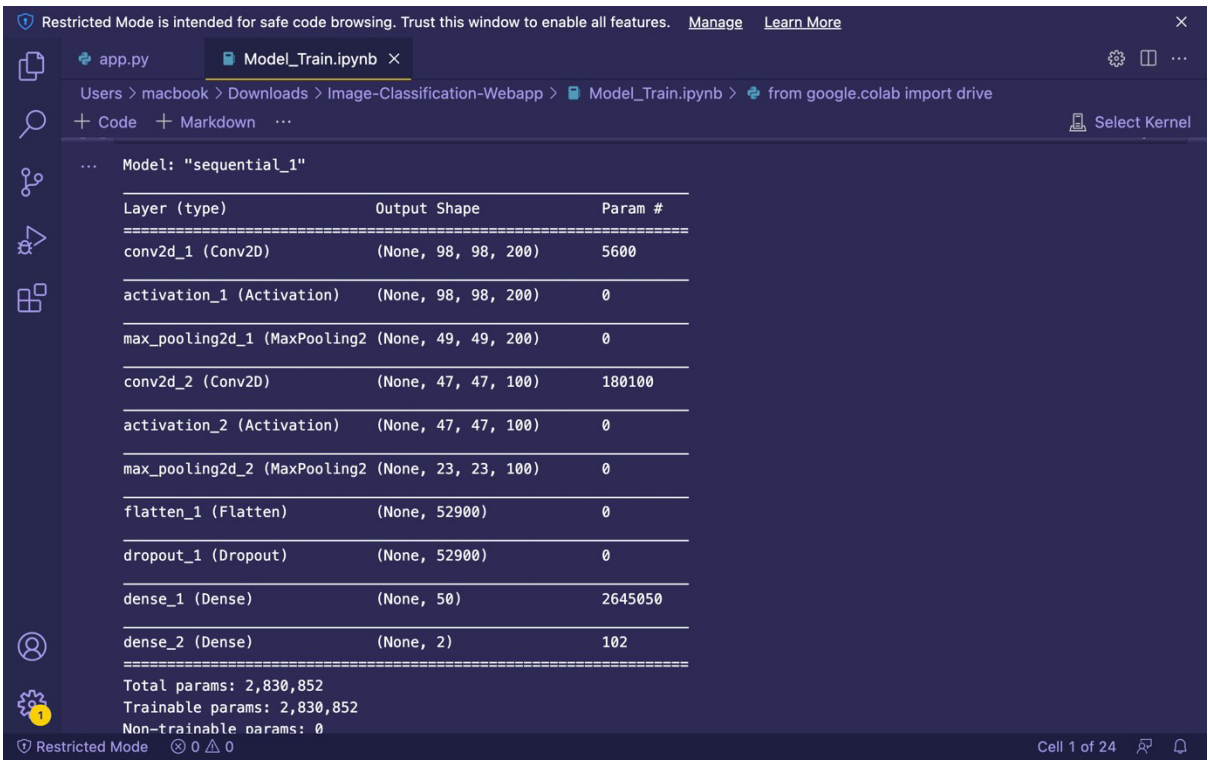
implementation:

-> implementing the meachine learning code into the flask

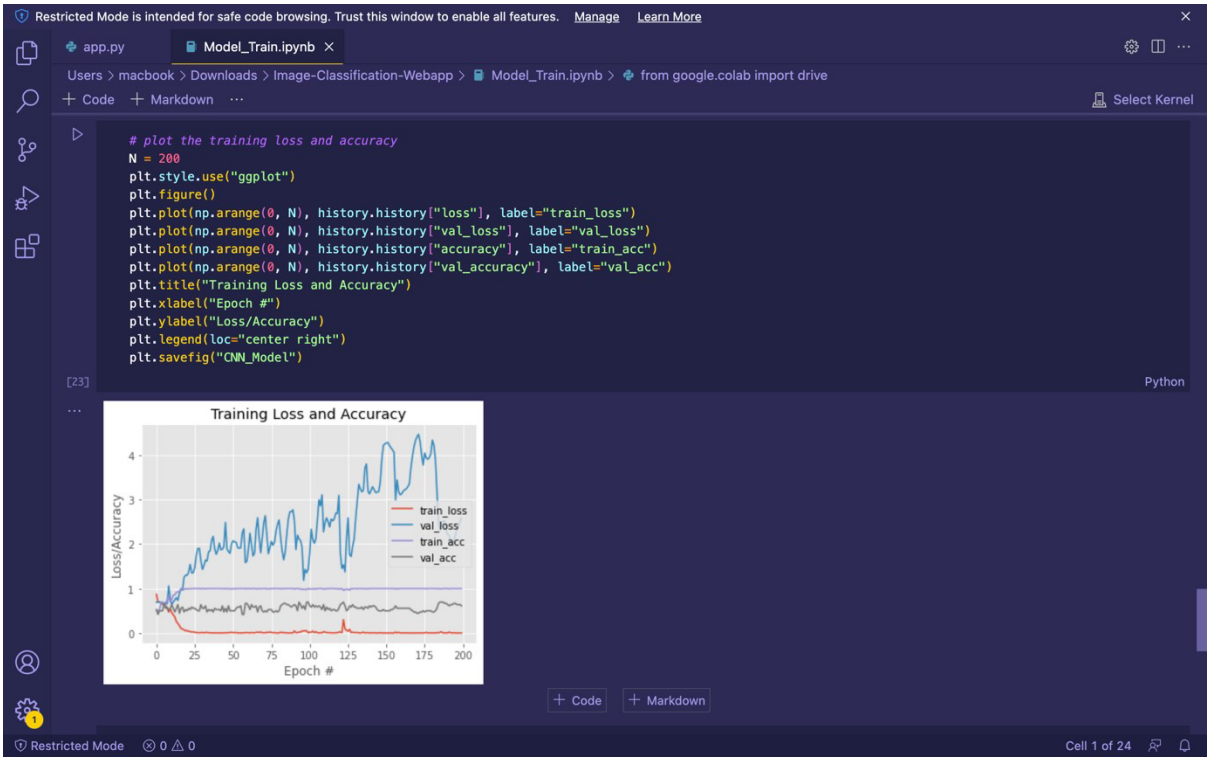




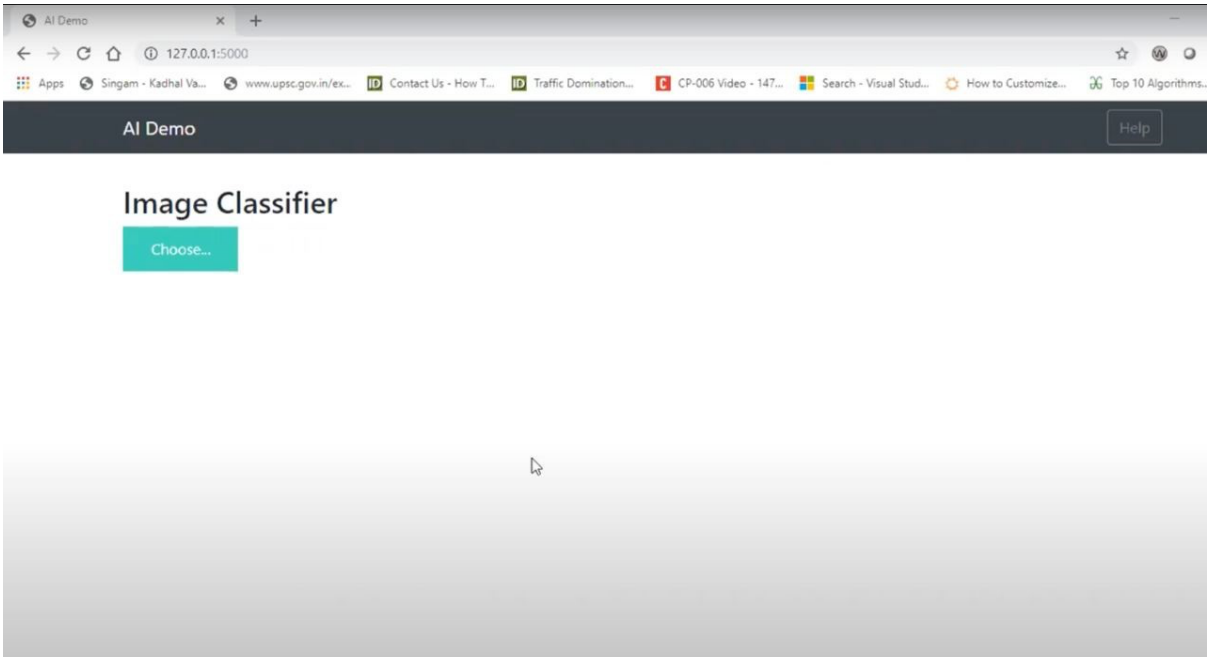
->summary

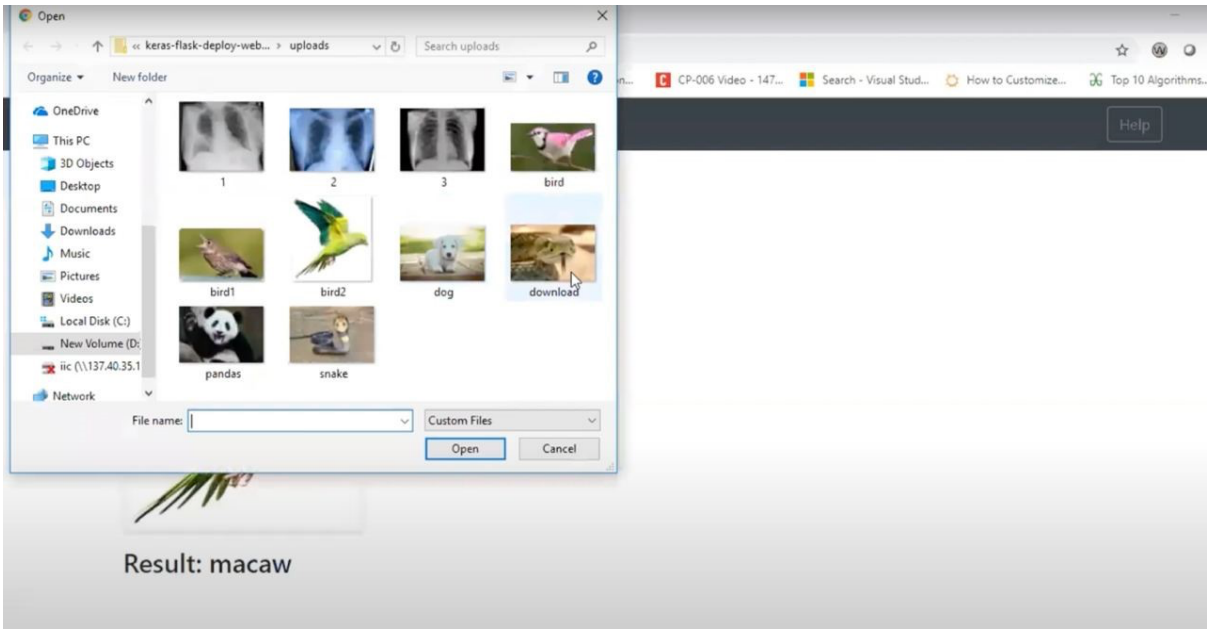


->Performance:

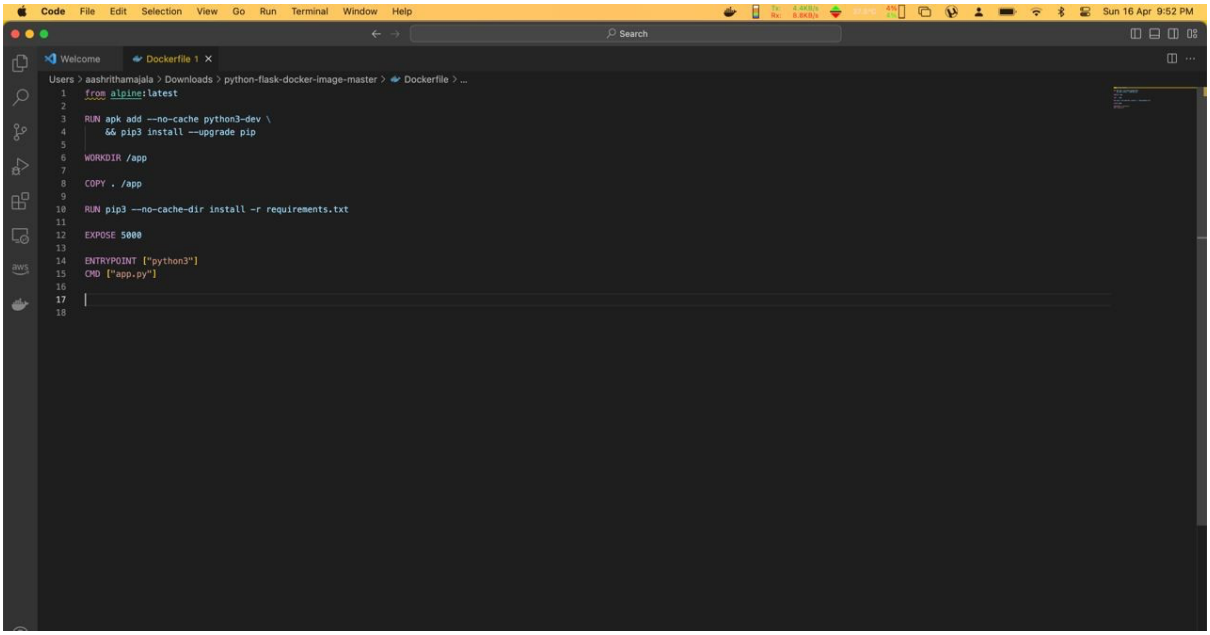


->Flask App Running on the Local Server:

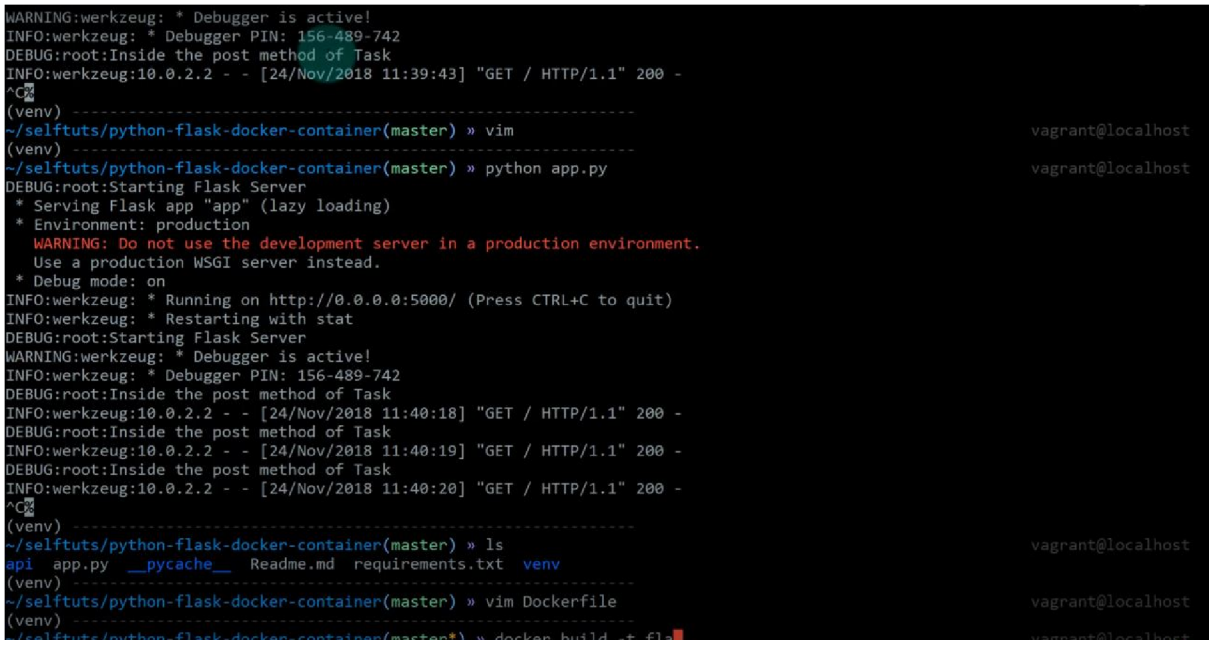




->Crea0ng the Docker File:

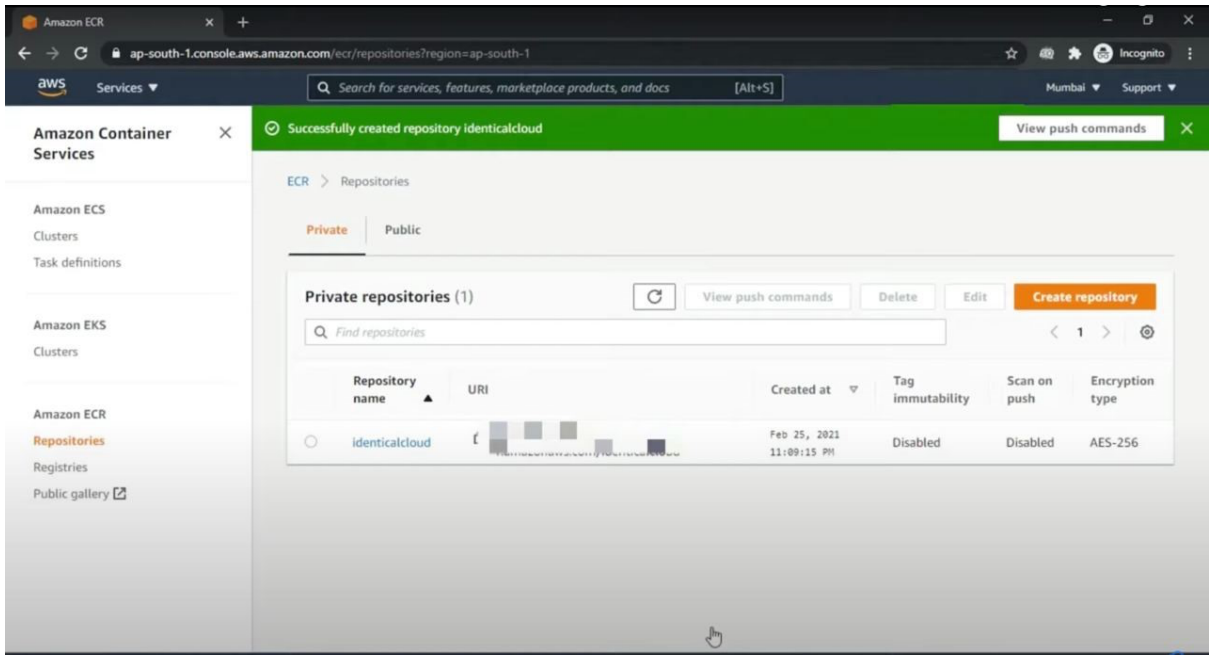


->Container Building:

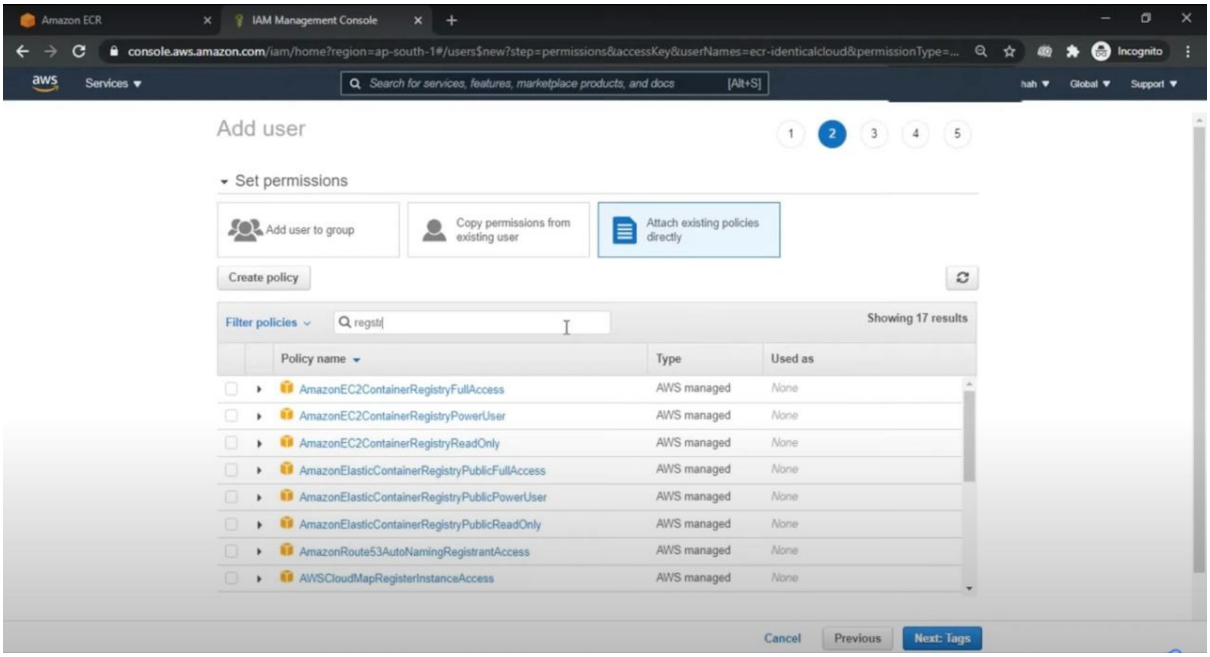


->Container Running:

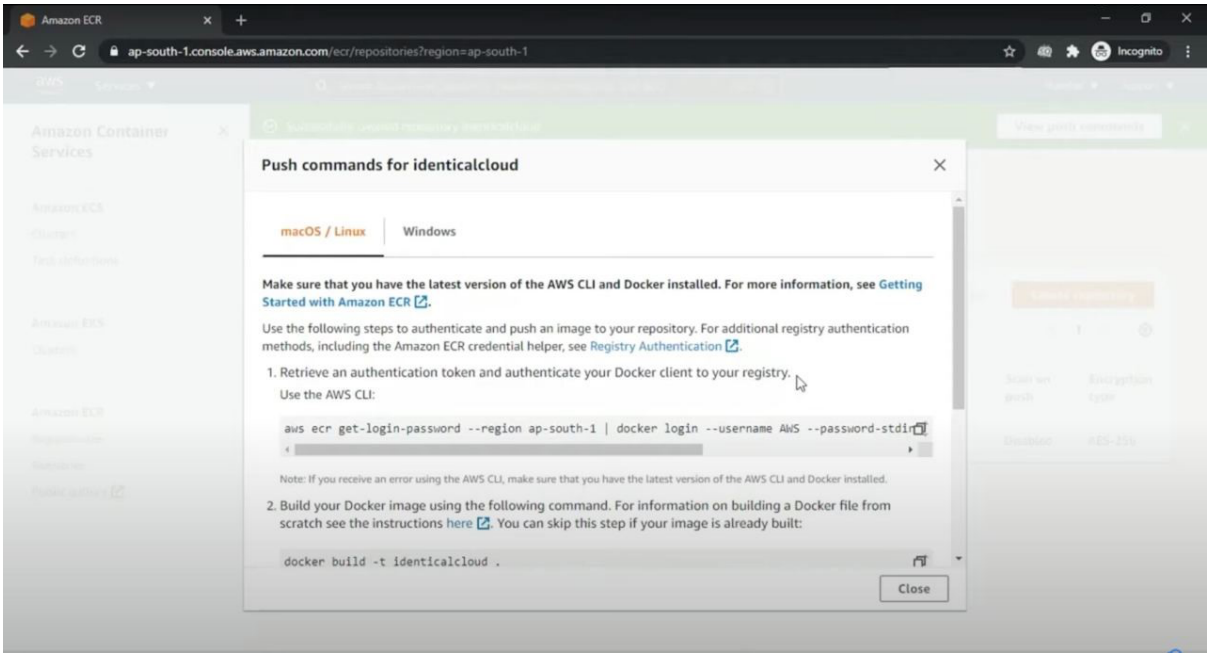
-> Creating an Elastic container registry repository



Creating iam role for pushing to repository:



Push commands for identical cloud



Pushing into the ECR repository:

```
Login Succeeded
root@ip-172-31-9-60:~# docker images
REPOSITORY                TAG         IMAGE ID       CREATED       SIZE
identicalcloud/nodejs     2           6f7124b1d12c   7 days ago    86MB
ic-nodejs                 2           6f7124b1d12c   7 days ago    86MB
identicalcloud/nodejs     1           50a63ebd1c63   7 days ago    86MB
node                      10-alpine   cd8095d6b851   12 days ago   82.7MB
root@ip-172-31-9-60:~#
```

```
2344f49dfbe3: Pushed
d179931639eb: Pushed
37cc999115d4: Pushed
9d8759356f0a: Pushed
4992425f60b2: Pushed
729a2badad91: Pushing [==================================================>]  8.371MB
ec7c69516687: Pushing [=============>                                     ]  18.35MB/68.78MB
0fcbbeeeb0d7: Pushing [==================================================>]  5.396MB/5.615MB
```

After pushing into the ECR repository: