

## Assignment - 4

### Kubernetes and Docker

Assignment Date	02 November 2022
Student Name	Manikandan R
Student Roll Number	2116190801099
Maximum Marks	2 Marks

#### Question-1:

Pull an Image from docker hub and run it in docker playground.

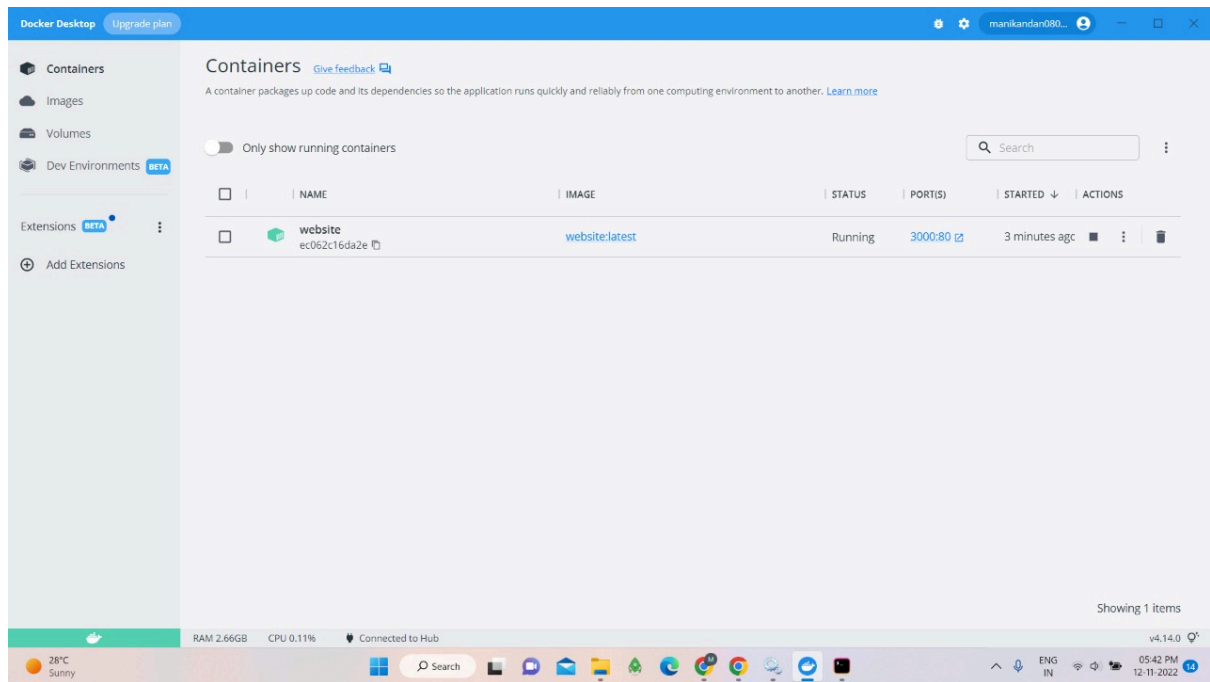
```
MINGW64/c:/Users/Manikandan/Desktop/Website

Manikandan@DESKTOP-3H5VQPS MINGW64 ~/Desktop/Website (main)
$ docker build -t website .
[+] Building 1.8s (7/7) FINISHED
=> [internal] load build definition from Dockerfile                                0.1s
=> -- transferring dockerfile: 82B                                              0.0s
=> [internal] load .dockerignore                                                 0.1s
=> -- transferring context: 2B                                                  0.0s
=> [internal] load metadata for docker.io/library/httpd:latest                 1.3s
=> [internal] load build context                                                0.0s
=> -- transferring context: 21.07kB                                             0.0s
=> CACHED [1/2] FROM docker.io/library/httpd@sha256:5f4a6551b61599de5dfb7f48c9e97e4155232eb52babe883c2f47f 0.0s
=> [2/2] COPY . /usr/local/apache2/htdocs/                                     0.1s
=> exporting to image                                                           0.1s
=> -- writing image sha256:c90d41677c0d74ced0fe332bc313e08126f7a15c55824b622f172a514ed6d85 0.0s
=> naming to docker.io/library/website                                         0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

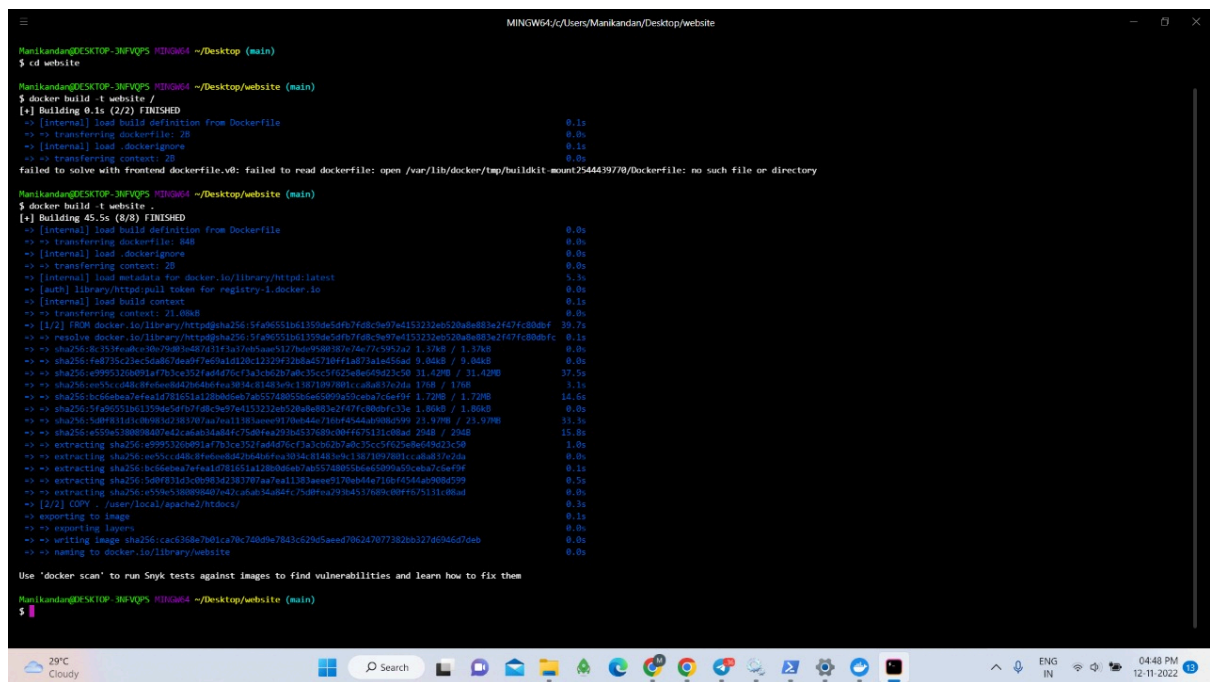
Manikandan@DESKTOP-3H5VQPS MINGW64 ~/Desktop/Website (main)
$ docker images
REPOSITORY          TAG             IMAGE ID      CREATED      SIZE
website             latest         c90d41677c0d  16 seconds ago  14.9MB
<none>              <none>         cac6368e7b01  49 minutes ago  14.9MB
docker/getting-started latest         c590f98fd791  7 months ago   26.9MB

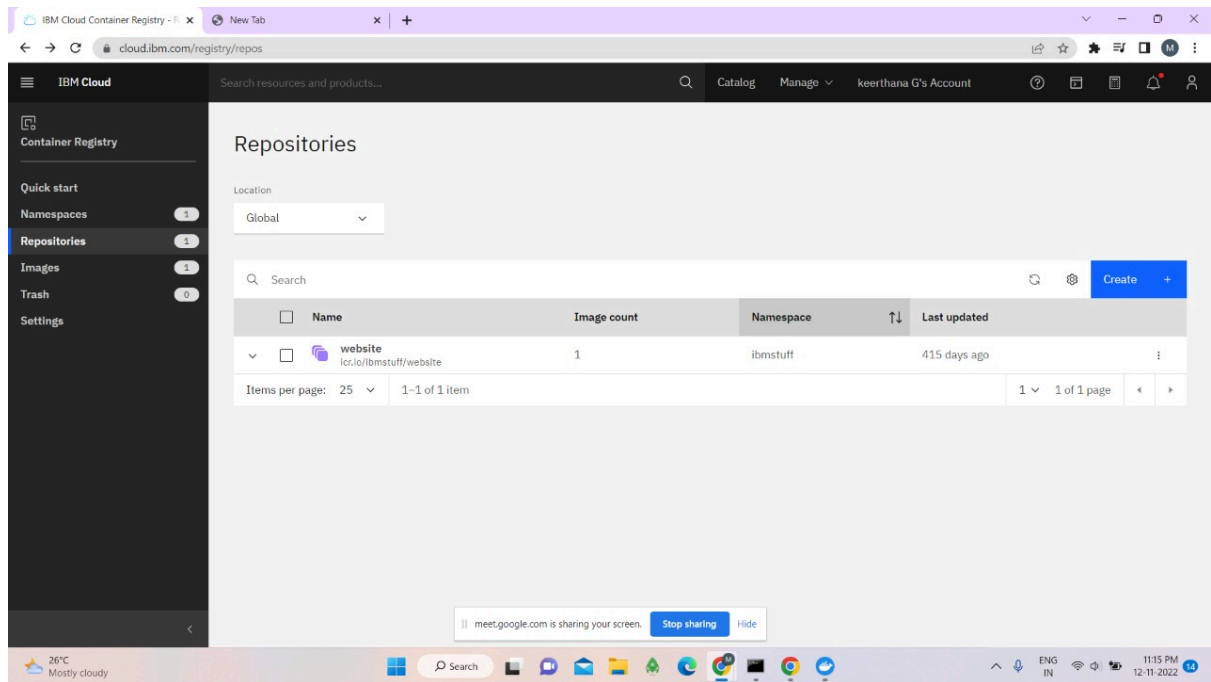
Manikandan@DESKTOP-3H5VQPS MINGW64 ~/Desktop/Website (main)
$ docker run -itd -p 3000:80 --name website website
```



## Question-2:

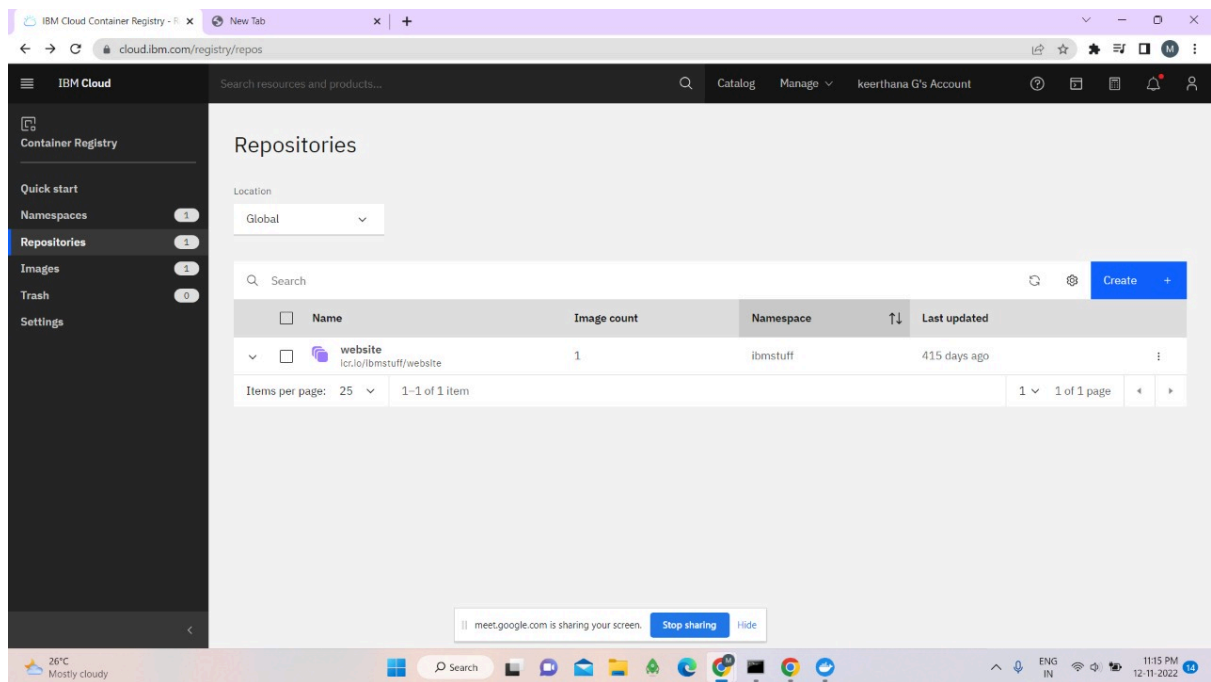
Create a docker file for the jobportal application and deploy it in Docker desktop application.





### Question-3:

Create a IBM container registry and deploy helloworld app or jobportal app.



#### Question-4:

Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

```
Manikandan@DESKTOP-3HFGQPS MINGW64 ~/Desktop (main)
$ cd website

Manikandan@DESKTOP-3HFGQPS MINGW64 ~/Desktop/website (main)
$ docker build -t website /
[+] Building 0.1s (2/2) FINISHED
=> [internal] load build definition from Dockerfile                                0.1s
=> => transferring dockerfile: 2B                                                0.0s
=> [internal] load .dockerignore                                                  0.1s
=> => transferring context: 2B                                                    0.0s
failed to solve with frontend dockerfile.v0: failed to read dockerfile: open /var/lib/docker/tmp/buildkit-mount2944439778/Dockerfile: no such file or directory

Manikandan@DESKTOP-3HFGQPS MINGW64 ~/Desktop/website (main)
$ docker build -t website .
[+] Building 45.5s (8/8) FINISHED
=> [internal] load build definition from Dockerfile                                0.0s
=> => transferring dockerfile: 84B                                                0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                    0.0s
=> [internal] load metadata for docker.io/library/httpd:latest                  5.5s
=> [auth] library/httpd:pull token for registry-1.docker.io                     0.0s
=> [internal] load build context                                                 0.1s
=> => transferring context: 21.00kB                                              0.0s
=> [1/2] FROM docker.io/library/httpd:sha256:5fa9551b61359de5dfb7f6bcb97e415322eb520ade883e2477c80bdf 39.7s
=> => resolve docker.io/library/httpd:sha256:5fa9551b61359de5dfb7f6bcb97e415322eb520ade883e2477c80bdfc 0.1s
=> sha256:8c55f9e0b70b080428131f3a79e5a55127ba95083072b727c997122 2.19kB / 1.37kB 0.0s
=> sha256:f48795c23c5da67dea97f6c9a1d120c1229f30da5710ff1a873a1e556ad 9.04kB / 9.04kB 0.0s
=> sha256:e999320a91a7b3c352fa4d76c3a3c62b7a6c35c5f625e8e69a23c50 31.42kB / 31.42kB 37.5s
=> sha256:e055cc0d8c8f6e08d429d4d6fea3834c81483ebc13671097801ccab837c3da 176B / 176B 3.1s
=> sha256:bc6e0ea7efad178151a12b0a6e7a65748050e6c8099a50ea07c6ef9f 1.72kB / 1.72kB 14.4s
=> sha256:5fa9551b61359de5dfb7f6bcb97e415322eb520ade883e2477c80bdfc35a 1.86kB / 1.86kB 0.0s
=> sha256:5d8f811dc0b83d7383707aa7a11381ae9170eb44c710f4544a008dc999 23.97kB / 23.97kB 31.3s
=> sha256:e550e38808047e42cda3b3da84fc75d8fea293b4537689c00f675131c88ad 204B / 204B 15.8s
=> extracting sha256:e999320a91a7b3c352fa4d76c3a3c62b7a6c35c5f625e8e69a23c50 1.0s
=> extracting sha256:e055cc0d8c8f6e08d429d4d6fea3834c81483ebc13671097801ccab837c3da 0.0s
=> extracting sha256:bc6e0ea7efad178151a12b0a6e7a65748050e6c8099a50ea07c6ef9f 0.1s
=> extracting sha256:5d8f811dc0b83d7383707aa7a11381ae9170eb44c710f4544a008dc999 0.5s
=> extracting sha256:e550e38808047e42cda3b3da84fc75d8fea293b4537689c00f675131c88ad 0.0s
=> [2/2] COPY . /user/local/apache2/htdocs/                                     0.3s
=> => exporting to image                                                         0.1s
=> => exporting layers                                                            0.0s
=> => writing image sha256:cac3d6a76d1ca78c70bd9e7843c919d5eed70624707732ba3276a36d70eb 0.0s
=> => naming to docker.io/library/website                                       0.0s

Use "docker scan" to run Snyk tests against images to find vulnerabilities and learn how to fix them

Manikandan@DESKTOP-3HFGQPS MINGW64 ~/Desktop/website (main)
$
```