

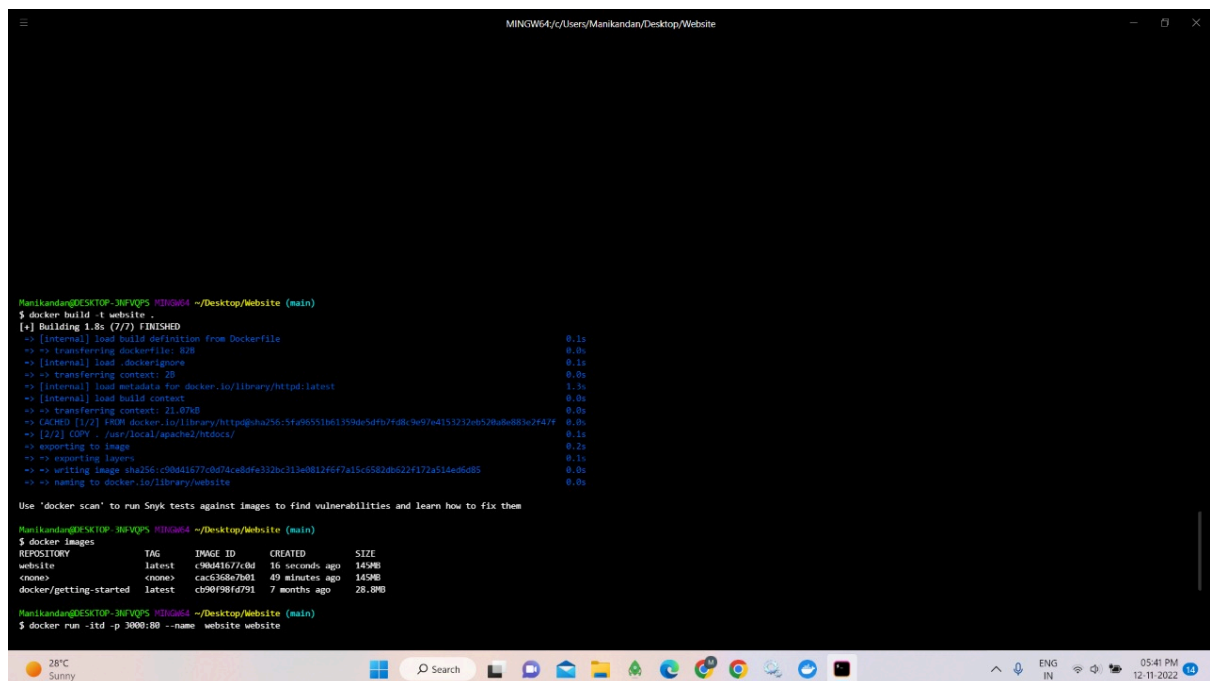
## Assignment - 4

### Kubernetes and Docker

Assignment Date	02 November 2022
Student Name	Muhammed Zayed A
Student Roll Number	2116190801101
Maximum Marks	2 Marks

#### Question-1:

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

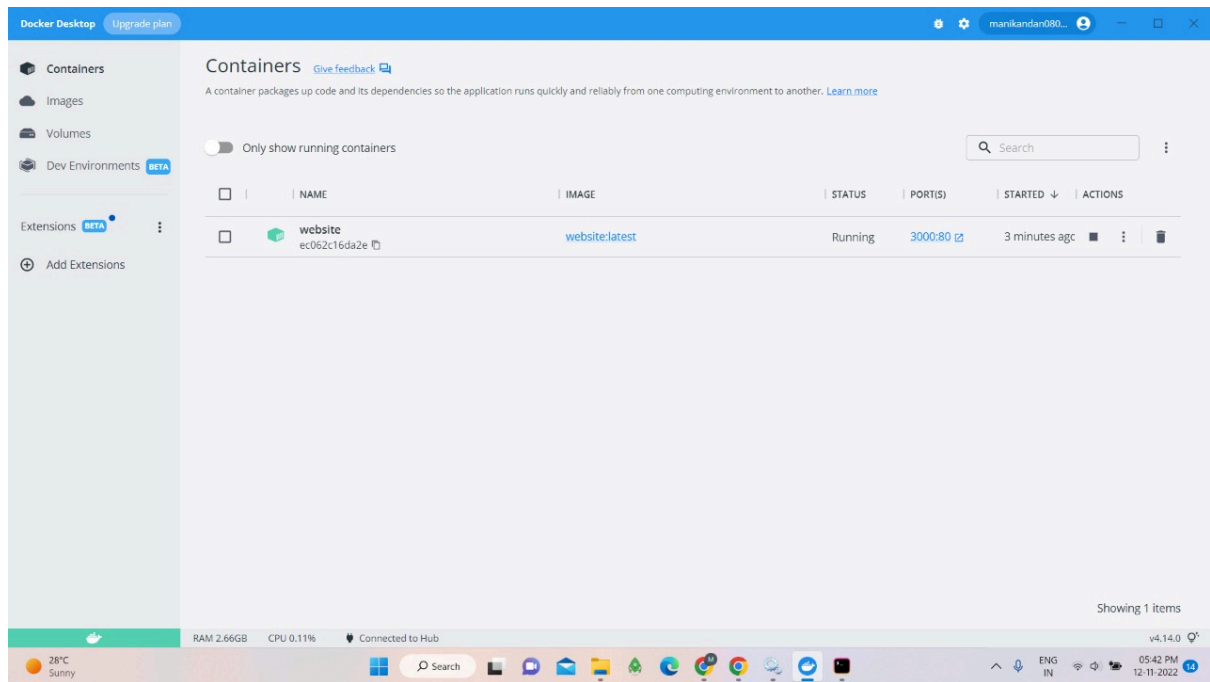


```
Manikandan@DESKTOP-3H5VQPS MINGW64 ~/Desktop/Website (main)
$ docker build -t website .
[+] Building 1.8s (7/7) FINISHED
=> [internal] load build definition from Dockerfile                                0.1s
=> -- transferring dockerfile to: 0.0s                                           0.0s
=> [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@sha256:5f4a6551b61599de5dfb7f48bc9e97e4155232eb52babe883c2f47f 0.0s
=> [2/2] COPY . /usr/local/apache2/htdocs/                                       0.1s
=> exporting to image                                                            0.1s
=> writing image sha256:c90d41677c0d74ced0fe332bc313e08126f7a15c5824b622f172a514ed6d85 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.

```

MINGW64~/Users/Manikandan/Desktop/website

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

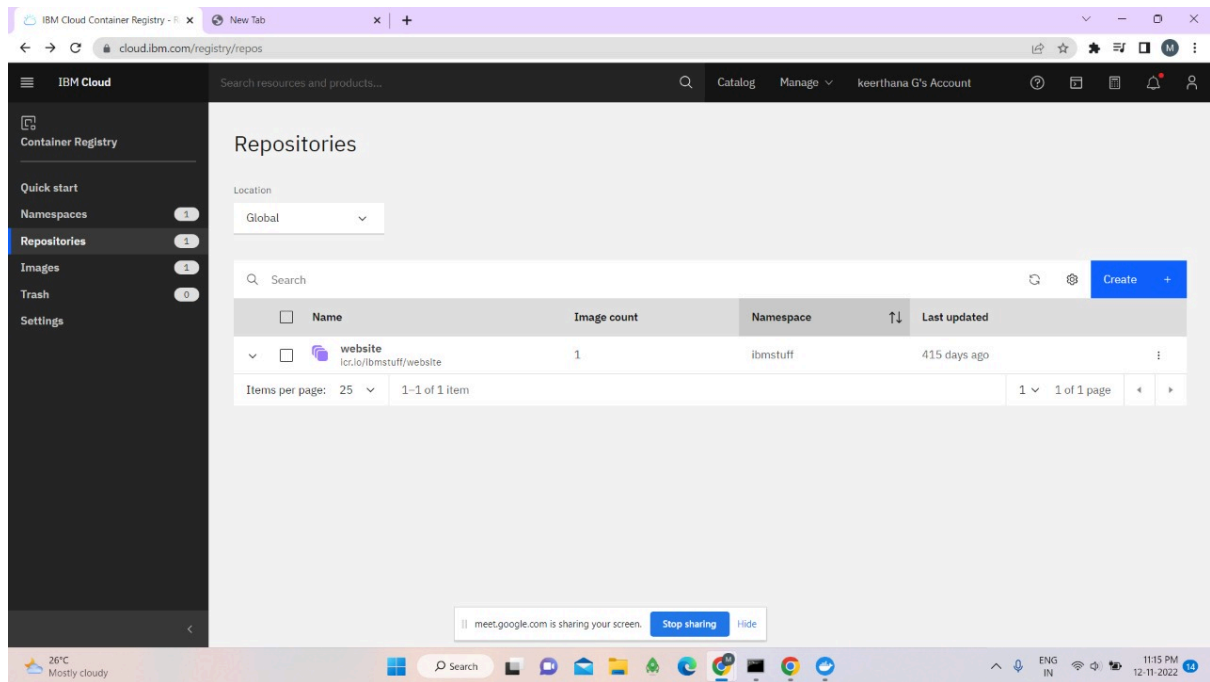
Manikandan@DESKTOP-3HFVQPS MINGW64 ~/Desktop/website (main)
$ docker build -t website /
[*] Building 0.1s (2/2) FINISHED
-> [internal] load build definition from Dockerfile                                0.1s
-> transferring dockerfile: 2B                                                    0.0s
-> [internal] 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-mount25444397/0/Dockerfile: no such file or directory

Manikandan@DESKTOP-3HFVQPS 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                  5.3s
-> [auth] library/httpd:pull token for registry-1.docker.io                     0.0s
-> [internal] load build context                                                  0.1s
-> transferring context: 21.08kB                                                  0.0s
-> [1/2] FROM docker.io/library/httpd@sha256:5fa9551b6115bde5d97f6d8c9e97e4153232e52b9a883a21474c80bdf 39.7s
-> resolve docker.io/library/httpd@sha256:5fa9551b6115bde5d97f6d8c9e97e4153232e52b9a883a21474c80bdf 0.1s
-> sha256:b35f6e4ce3b079d81e487d1f3a77eb5aee5127bde9588387e7e7c5952a2 1.37kB / 1.37kB 0.0s
-> sha256:f4d73522ec5d867ba0974e09a1d120c12329320a45710f1a073a1e456a0 9.06kB / 9.06kB 0.0s
-> sha256:e9093320a91a7b3ca35f7e4d76c7a3c962b7a0c35c5f625e6d9d23c5b 31.49kB / 31.49kB 37.5s
-> sha256:ee55c5d48c9f0e0e0d47b6d46fea9b34e81483e411871897801c0a0157c3da 376B / 376B 3.1s
-> sha256:bc6e6bea7eaa1781551a128b0d6eb7ab5574805586e65099a53ceba7c6ef9f 1.72MB / 1.72MB 14.6s
-> sha256:5f902510c12594c9f0774b3977e413232b0520a0e63c2477fc0b0d4c33e 1.96kB / 1.96kB 0.0s
-> sha256:5b0e11c0c0b083d74537a7e011365ee0977b0d4a710e454da0b0b09 21.57kB / 21.57kB 11.1s
-> sha256:e550a538089807e42caab34ab4fc75dfe292b6537689c00ff675131c0ad 204B / 204B 15.8s
-> extracting sha256:e9995326091a77b3ca352fa0d76c73a3c62b7a0c35c5f625e6d9d23c5b 1.0s
-> extracting sha256:ee55c5d48c9f0e0e0d47b6d46fea9b34e81483e411871897801c0a0157c3da 0.0s
-> extracting sha256:bc6e6bea7eaa1781551a128b0d6eb7ab5574805586e65099a53ceba7c6ef9f 0.1s
-> extracting sha256:5d0f831d3c0b983d383707a7e11383ee09170eb44e710e4544a0b0d4599 0.5s
-> extracting sha256:e550a538089807e42caab34ab4fc75dfe292b6537689c00ff675131c0ad 0.0s
-> [2/2] COPY --from=local/apache2 /etc/ssl/certs /etc/ssl/certs                  0.0s
-> exporting to image                                                            0.1s
-> exporting layers                                                              0.0s
-> writing image sha256:cac358e7b01ca70c748d9e7843c229d5eed706247077382b0327e946d7deb 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

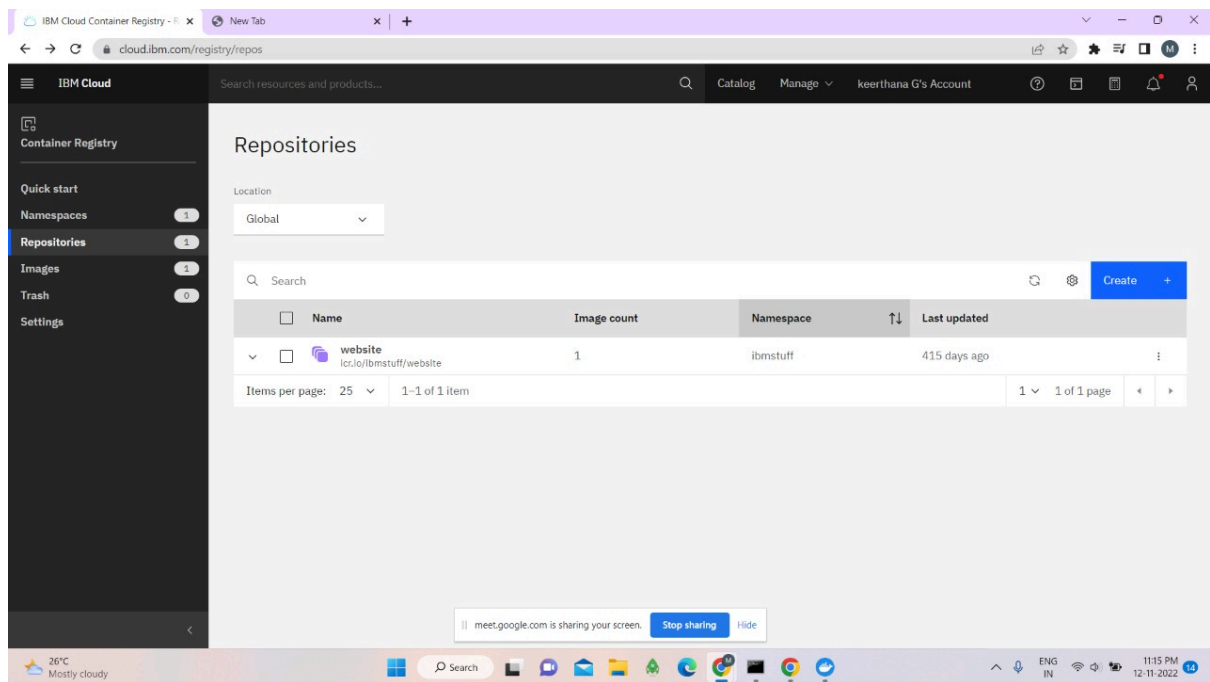
Manikandan@DESKTOP-3HFVQPS MINGW64 ~/Desktop/website (main)

```



### 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-3HFWQPS MINGW64 ~/Desktop (main)
$ cd website

Manikandan@DESKTOP-3HFWQPS 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-3HFWQPS 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                  5.3s
=> [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
=> sha256:8c55f4e9c9b0208b4d2181f3a79e5ae5127ba95083072b72c595722 2.19kB / 1.37kB 0.0s
=> sha256:f48795c23c5da67dea9f7e09a1d120c1229f310ba45710ff1a873a1e556ad 9.04kB / 9.04kB 0.0s
=> sha256:e999320a91a7b3c352fa4d76c3a3c62b7a6c35c5f625e8e69a23c50 31.42kB / 31.42kB 37.5s
=> sha256:e055cc0d8c8f6e08d429d4d6fea3834c81483ebc13671097801ccab837c3da 176B / 176B 3.1s
=> sha256:bc6e0ea7efaf178151a12b0a6e7a65748050e6c8099a50ea07c6ef9f 1.72kB / 1.72kB 14.4s
=> sha256:5fa9551b61359de5dfb7f6bcb97e415322eb520ade883e2477c80bdfc35a 1.86kB / 1.86kB 0.0s
=> sha256:5d8f811dc0b83d7383707aa7a11381ae9170eb44c710f4544a008c999 23.97kB / 23.97kB 31.3s
=> sha256:e550e38808407e42cda3b3da84fc75d8fea293b4537689c00f675131c88ad 204B / 204B 15.8s
=> extracting sha256:e999320a91a7b3c352fa4d76c3a3c62b7a6c35c5f625e8e69a23c50 1.0s
=> extracting sha256:e055cc0d8c8f6e08d429d4d6fea3834c81483ebc13671097801ccab837c3da 0.0s
=> extracting sha256:bc6e0ea7efaf178151a12b0a6e7a65748050e6c8099a50ea07c6ef9f 0.1s
=> extracting sha256:5d8f811dc0b83d7383707aa7a11381ae9170eb44c710f4544a008c999 0.5s
=> extracting sha256:e550e38808407e42cda3b3da84fc75d8fea293b4537689c00f675131c88ad 0.0s
=> [2/2] COPY ./user/local/apache2/htdocs/ 0.3s
=> exporting to image 0.1s
=> exporting layers 0.0s
=> writing image sha256:cac3d6a76d1ca78c70bd9e7843c919d5eed70624707732ba3276036d70eb 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-3HFWQPS MINGW64 ~/Desktop/website (main)
$
```