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School of Technology

Department of Computer Science & Engineering

Cloud Computing Lab (20CP322P)

B.Tech-Computer Science & Engineering (Sem-VI)

Lab 6 Assignment: Working with DOCKER.

Aim: Create a customized docker image and perform the following

- 1) Create Docker File by own.
- 2) Get the latest python image from Docker Repository.
- 3) Write down a simple python program or get it from internet.
- 4) Run Python Program inside the Container.
- 5) Tag and Push the Image to Docker Hub.
- 6) Remove Image from Local and Again execute it from Hub

Step 1: Create Docker File by own.

```
FROM python:latest
```

```
WORKDIR /app
```

```
COPY . /app
```

```
CMD ["python", "app.py"]
```

Step 2: Get the latest python image from Docker Repository.

```
pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker pull python:latest
latest: Pulling from library/python
71215d55680c: Pull complete
3cb8f9c23302: Pull complete
5f899db30843: Pull complete
567db630df8d: Pull complete
d68cd2123173: Pull complete
63941d09e532: Pull complete
097431623722: Pull complete
09527fa4de8d: Pull complete
Digest: sha256:19973e1796237522ed1fcc1357c766770b47dc15854eafdda055b65953fe5ec1
Status: Downloaded newer image for python:latest
docker.io/library/python:latest
```

Step 3: Write down a simple python program or get it from internet.

```
def main():
    print("Hello from inside the Docker container!")

if __name__ == "__main__":
    main()
```

Step 4: Run Python Program inside the Container.

```
pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker run my-python-app
Hello from inside the Docker container!
```

Step 5: Tag and Push the Image to Docker Hub.

```
pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker tag my-python-app dev2402/my-python-app

pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
dev2402/my-python-app	latest	d4e55fa64387	21 minutes ago	1.03GB
my-python-app	latest	d4e55fa64387	21 minutes ago	1.03GB
mysql	latest	a88c3e85e887	2 months ago	632MB
nginx	latest	b690f5f0a2d5	5 months ago	187MB
camping	1.0	2e7770d1451c	8 months ago	225MB
dev2402/student-app-k8s	1.0	09d7bdf1b30c	9 months ago	224MB
mongo	latest	7e32c3979b02	9 months ago	653MB
gcr.io/k8s-minikube/kicbase	v0.0.39	67a4b1138d2d	12 months ago	1.05GB
mongo-express	latest	2d2fb2cab8f	2 years ago	136MB

```
pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker push dev2402/my-python-app
Using default tag: latest
The push refers to repository [docker.io/dev2402/my-python-app]
622edd6195e8: Layer already exists
620bb15847dd: Layer already exists
9adbc4b1428d: Layer already exists
f52093e4f67d: Layer already exists
1193f41e6b14: Layer already exists
e077e19b6682: Layer already exists
21e1c4948146: Layer already exists
68866beb2ed2: Layer already exists
e6e2ab10dba6: Layer already exists
0238a1790324: Layer already exists
latest: digest: sha256:efb0013d0308f12fb4c5e832112393dd29578601994e07ffa2b2455c6c22e238 size: 2425
```

Step 6: Remove Image from Local and Again execute it from Hub.

```
pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker image rm dev2402/my-python-app
Untagged: dev2402/my-python-app:latest
Untagged: dev2402/my-python-app@sha256:efb0013d0308f12fb4c5e832112393dd29578601994e07ffa2b2455c6c22e238

pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker pull dev2402/my-python-app
Using default tag: latest
latest: Pulling from dev2402/my-python-app
Digest: sha256:efb0013d0308f12fb4c5e832112393dd29578601994e07ffa2b2455c6c22e238
Status: Downloaded newer image for dev2402/my-python-app:latest
docker.io/dev2402/my-python-app:latest

pdev2@Dev MINGW64 ~/OneDrive/Documents/NOTES/SEM 6/CLOUD/lab
$ docker run dev2402/my-python-app
Hello from inside the Docker container!
```