

UE23CS351B - CLOUD COMPUTING

LAB - 2

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SRN : PES2UG23CS119

SECTION : B

SS1 :

```
pes2ug23cs119@pes2ug23cs119: ~/PES2UG23CS119
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ sudo docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ S
```

SS2 :

```
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ sudo docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS    NAMES
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ sudo docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS    NAMES
aaeae0756ae3   hello-world  "/hello"                3 minutes ago    Exited (0) 3 minutes ago    reverent_albattani
f0a750036e55   hello-world  "/hello"                3 minutes ago    Exited (0) 3 minutes ago    magical_nightingale
2329bb7d8212   hello-world  "/hello"                35 minutes ago   Exited (0) 35 minutes ago    happy_brown
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ sudo docker images
IMAGE          ID              DISK USAGE   CONTENT SIZE   EXTRA
hello-world:latest  05813aedc15f    25.9kB       9.52kB         U
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$
```

SS3 :

```
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ sudo docker pull python:3.10-slim
3.10-slim: Pulling from library/python
63ebb7511fc1: Pull complete
690eaffcf0e9: Pull complete
0c8d55a45c0d: Pull complete
d0d1977db485: Pull complete
13a7f29dd8f5: Download complete
a4e5ac615dd3: Download complete
Digest: sha256:218027ad8e5a6fb68245ccffcb8bcfa98d9891039bfedd53b1b4666dc48a4bb1
Status: Downloaded newer image for python:3.10-slim
docker.io/library/python:3.10-slim
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$ sudo docker images
IMAGE          ID              DISK USAGE   CONTENT SIZE   EXTRA
hello-world:latest  05813aedc15f    25.9kB       9.52kB         U
python:3.10-slim    218027ad8e5a    185MB        47.1MB
pes2ug23cs119@pes2ug23cs119:~/PES2UG23CS119$
```

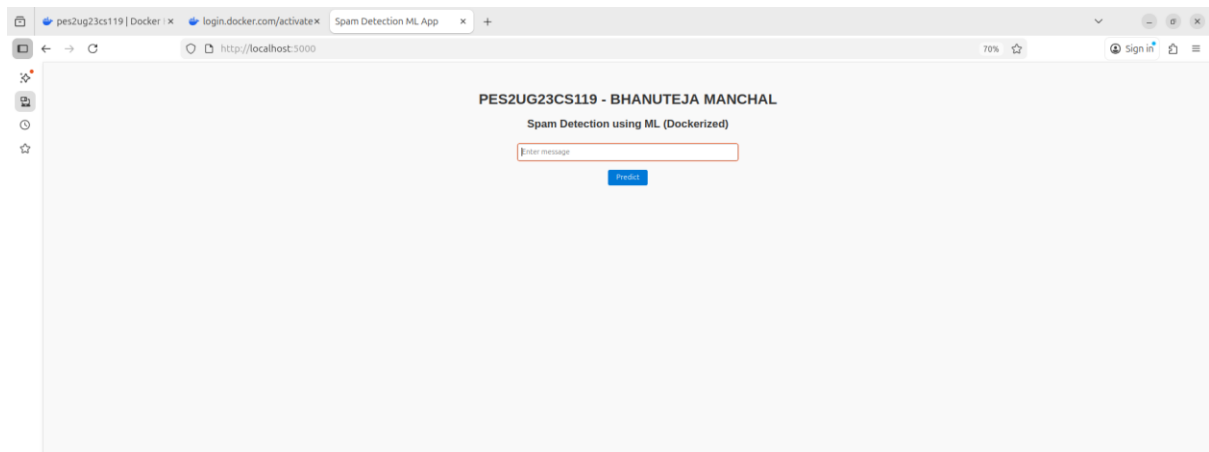
SS4 :

```
pes2ug23cs119@pes2ug23cs119: ~/ml-docker-PES2UG23CS119$ sudo docker build -t span-web-app-pes2ug23cs119 .
[+] Building 145.8s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 278B
=> [internal] load metadata for docker.io/library/python:3.10-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 400.16kB
=> [1/7] FROM docker.io/library/python:3.10-slim@sha256:218027ad0e6a6fb60245ccffcb0bcfa98d9091039bfed53b1b4666dc48a4bb1
=> => resolve docker.io/library/python:3.10-slim@sha256:218027ad0e6a6fb60245ccffcb0bcfa98d9091039bfed53b1b4666dc48a4bb1
=> [2/7] WORKDIR /app
=> [3/7] COPY app.py ./
=> [4/7] COPY spam_classifier_model.pkl ./
=> [5/7] COPY tfidf_vectorizer.pkl ./
=> [6/7] COPY templates ./templates
=> [7/7] RUN pip install --no-cache-dir flask scikit-learn joblib
=> exporting to image
=> exporting layers
=> exporting manifest sha256:c3fc8a7f79e9206d9dfe9c4318ac37f4ee64e00c2d61072f0979327d15e01f
=> exporting config sha256:89e46808abc43f6e3e0b2b14998c6eb6fe181b119904d5e5c0098a9e122ed
=> exporting attestation manifest sha256:4c9a534e40469f2804b645c05b554a720e0b0b955b976c0b0e1f0a7ca700230
=> exporting manifest list sha256:219a834e00d0907e0dfff2025b0f6436972b7a866f6be4485e35a37715f31d16
=> naming to docker.io/library/span-web-app-pes2ug23cs119:latest
=> unpacking to docker.io/library/span-web-app-pes2ug23cs119:latest
```

SS5 :

```
pes2ug23cs119@pes2ug23cs119: ~/ml-docker-PES2UG23CS119$ sudo docker run -d -p 5000:5000 span-web-app-pes2ug23cs119
f6e6d3f6ab0c8e119eb56e1a3bfbede32d9760efe42b3ce6d8c4255ea4d415e
pes2ug23cs119@pes2ug23cs119: ~/ml-docker-PES2UG23CS119$ sudo docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
f6e6d3f6ab0c   span-web-app-pes2ug23cs119         "python app.py"         8 seconds ago   Up 7 seconds   0.0.0.0:5000->5000/tcp, [::]:5000->5000/tcp   hungry_franklin
```

SS6 :



SS6 :

```
pes2ug23cs119@pes2ug23cs119: ~/ml-docker-PES2UG23CS119$ sudo docker login
Authenticating with existing credentials... [Username: pes2ug23cs119]

Info → To login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
pes2ug23cs119@pes2ug23cs119: ~/ml-docker-PES2UG23CS119$
```

SS7 :

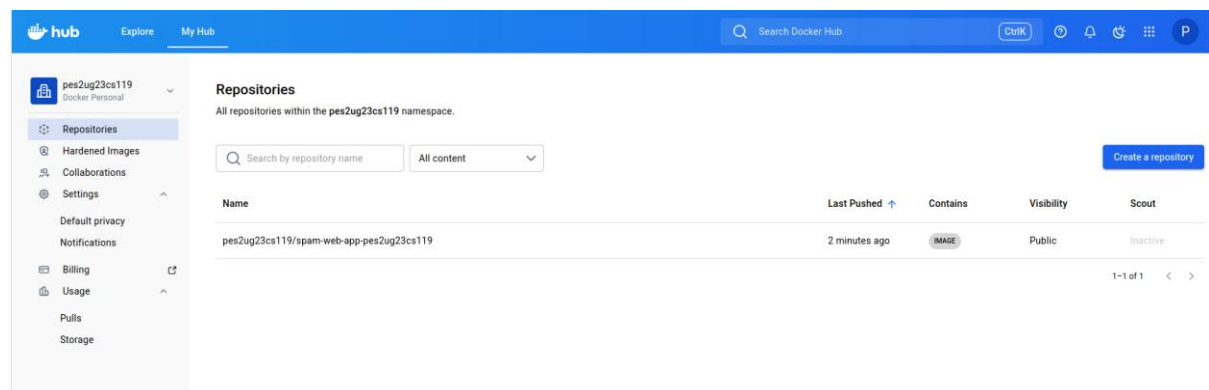
```
pes2ug23cs119@pes2ug23cs119:~$ sudo docker images
[sudo] password for pes2ug23cs119:

IMAGE                                ID                                DISK USAGE  CONTENT SIZE  EXTRA
pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  219a834e08d8                    541MB       125MB        U
hello-world:latest                          05813aedc15f                    25.9kB      9.52kB        U
python:3.10-slim                            218027ad8e5a                    185MB       47.1MB        U
spam-web-app-pes2ug23cs119:latest          219a834e08d8                    541MB       125MB        U
pes2ug23cs119@pes2ug23cs119:~$
```

SS8 :

```
pes2ug23cs119@pes2ug23cs119:~$ sudo docker push pes2ug23cs119/spam-web-app-pes2ug23cs119:v1
The push refers to repository [docker.io/pes2ug23cs119/spam-web-app-pes2ug23cs119]
f84401c41b27: Pushed
86afc78c9897: Pushed
d0d1977db485: Mounted from library/python
0c8d55a45c0d: Mounted from library/python
21d525fd1560: Pushed
aa8beedfdb29: Pushed
950aa718d042: Pushed
1693140a99b2: Pushed
7f0b193bb357: Pushed
63ebb7511fc1: Mounted from library/python
690eaffcf0e9: Mounted from library/python
v1: digest: sha256:219a834e08d8907e8dff2e25b0f6436922b7a866f6be4485ea35a32715f31d16 size: 856
pes2ug23cs119@pes2ug23cs119:~$
```

SS9 :



SS10 :

```
pes2ug23cs119@pes2ug23cs119:~$ sudo docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
bf8165a1e020   spam-web-app-pes2ug23cs119         "python app.py"         20 seconds ago Up 19 seconds 0.0.0.0:5000->5000/tcp, [::]:5000->5000/tcp  angry_burnell
pes2ug23cs119@pes2ug23cs119:~$ sudo docker stop bf8165a1e020
bf8165a1e020
pes2ug23cs119@pes2ug23cs119:~$ sudo docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
pes2ug23cs119@pes2ug23cs119:~$
```

SS11 :

```
pes2ug23cs119@pes2ug23cs119:~$ sudo docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
bf8165a1e020   spam-web-app-pes2ug23cs119         "python app.py"         4 minutes ago Exited (137) 3 minutes ago                               angry_burnell
aaeae0756ae3   hello-world                         "/hello"                2 hours ago   Exited (0) 2 hours ago                               reverent_albattani
pes2ug23cs119@pes2ug23cs119:~$ sudo docker rm bf8165a1e020
bf8165a1e020
pes2ug23cs119@pes2ug23cs119:~$ sudo docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
aaeae0756ae3   hello-world                         "/hello"                2 hours ago   Exited (0) 2 hours ago                               reverent_albattani
pes2ug23cs119@pes2ug23cs119:~$
```

SS12 :

```
pes2ug23cs119@pes2ug23cs119:~$ sudo docker images
IMAGE                                ID                                DISK USAGE    CONTENT SIZE    EXTRA
PES2UG23CS119/spam-web-app-pes2ug23cs119:v1  219a834e08d8                    541MB         125MB
hello-world:latest                        05813aedc15f                    25.9kB        9.52kB          U
pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  219a834e08d8                    541MB         125MB
python:3.10-slim                         218027ad8e5a                    185MB         47.1MB
spam-web-app-pes2ug23cs119:latest          219a834e08d8                    541MB         125MB
pes2ug23cs119@pes2ug23cs119:~$ sudo docker rmi spam-web-app-pes2ug23cs119
Untagged: spam-web-app-pes2ug23cs119:latest
pes2ug23cs119@pes2ug23cs119:~$ sudo docker images
IMAGE                                ID                                DISK USAGE    CONTENT SIZE    EXTRA
PES2UG23CS119/spam-web-app-pes2ug23cs119:v1  219a834e08d8                    541MB         125MB
hello-world:latest                        05813aedc15f                    25.9kB        9.52kB          U
pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  219a834e08d8                    541MB         125MB
python:3.10-slim                         218027ad8e5a                    185MB         47.1MB
```

SS13 :

```
pes2ug23cs119@pes2ug23cs119: ~  
pes2ug23cs119@pes2ug23cs119:~$ sudo docker images  


| IMAGE                                       | ID           | DISK USAGE | CONTENT SIZE | EXTRA |
|---------------------------------------------|--------------|------------|--------------|-------|
| hello-world:latest                          | 05813aedc15f | 25.9kB     | 9.52kB       | U     |
| pes2ug23cs119/spam-web-app-pes2ug23cs119:v1 | 219a834e08d8 | 541MB      | 125MB        |       |
| python:3.10-slim                            | 218027ad8e5a | 185MB      | 47.1MB       |       |

  
pes2ug23cs119@pes2ug23cs119:~$ sudo docker rmi pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  
Untagged: pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  
Deleted: sha256:219a834e08d8907e8dff2e25b0f6436922b7a866f6be4485ea35a32715f31d16  
pes2ug23cs119@pes2ug23cs119:~$ sudo docker images  


| IMAGE              | ID           | DISK USAGE | CONTENT SIZE | EXTRA |
|--------------------|--------------|------------|--------------|-------|
| hello-world:latest | 05813aedc15f | 25.9kB     | 9.52kB       | U     |
| python:3.10-slim   | 218027ad8e5a | 185MB      | 47.1MB       |       |

  
pes2ug23cs119@pes2ug23cs119:~$
```

SS14 :

PES2UG23CS119

//

Yes. Docker provides the command `docker image prune -a` which removes all unused images completely in one go.

SS15 :

```
pes2ug23cs119@pes2ug23cs119: ~  
pes2ug23cs119@pes2ug23cs119:~$ sudo docker pull pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  
v1: Pulling from pes2ug23cs119/spam-web-app-pes2ug23cs119  
950aa718d042: Pull complete  
aa8beedfdb29: Pull complete  
f84401c41b27: Pull complete  
21d525fd1560: Pull complete  
86afc78c9897: Pull complete  
7f0b193bb357: Pull complete  
1693140a99b2: Download complete  
Digest: sha256:219a834e08d8907e8dff2e25b0f6436922b7a866f6be4485ea35a32715f31d16  
Status: Downloaded newer image for pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  
docker.io/pes2ug23cs119/spam-web-app-pes2ug23cs119:v1  
pes2ug23cs119@pes2ug23cs119:~$
```