

CC-Semester-6

LAB-3

Date: 27/01/2026

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SRN: PES2UG23CS003

Section: A

SS-1

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ export SRN=PES2UG23CS003
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ echo "SRN:$SRN"
SRN:PES2UG23CS003
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ docker run hello-world
permission denied while trying to connect to the docker API at unix:///var/run/docker.sock
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ sudo docker run hello-world
[sudo] password for pes2ug23cs003:
Sorry, try again.
[sudo] password for pes2ug23cs003:
```

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/>

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$
```

SS-2

```
Login succeeded
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ docker ps
permission denied while trying to connect to the docker API at unix:///var/run/docker.sock
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ sudo docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
a2a6c155ea52 hello-world "/hello" 3 minutes ago Exited (0) 3 minutes ago
79796043df83 hello-world "/hello" 10 minutes ago Exited (0) 10 minutes ago
sad_cartwright
distracted_tu
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ docker images
permission denied while trying to connect to the docker API at unix:///var/run/docker.sock
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ sudo docker images
          Info →  U In Use
IMAGE           ID          DISK USAGE   CONTENT SIZE   EXTRA
hello-world:latest 05813aedc15f      25.9kB     9.52kB    U
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$
```

SS-3

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ sudo docker pull python:3.10-slim
3.10-slim: Pulling from library/python
ed8cfdf59ed51: Pull complete
119d43eec815: Pull complete
47c2bec0e44b: Pull complete
af233a02f79e: Pull complete
f81c64c75055: Download complete
b3e684e4d1bb: Download complete
Digest: sha256:f5d029fe39146b08200bcc73595795ac19b85997ad0e5001a02c7c32e8769efa
Status: Downloaded newer image for python:3.10-slim
docker.io/library/python:3.10-slim
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ docker images
permission denied while trying to connect to the docker API at unix:///var/run/docker.sock
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$ sudo docker images
          I  Info → U  In Use
IMAGE           ID      DISK USAGE   CONTENT SIZE   EXTRA
hello-world:latest  05813aedc15f    25.9kB     9.52kB   U
python:3.10-slim   f5d029fe3914    185MB     47.1MB
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003$
```

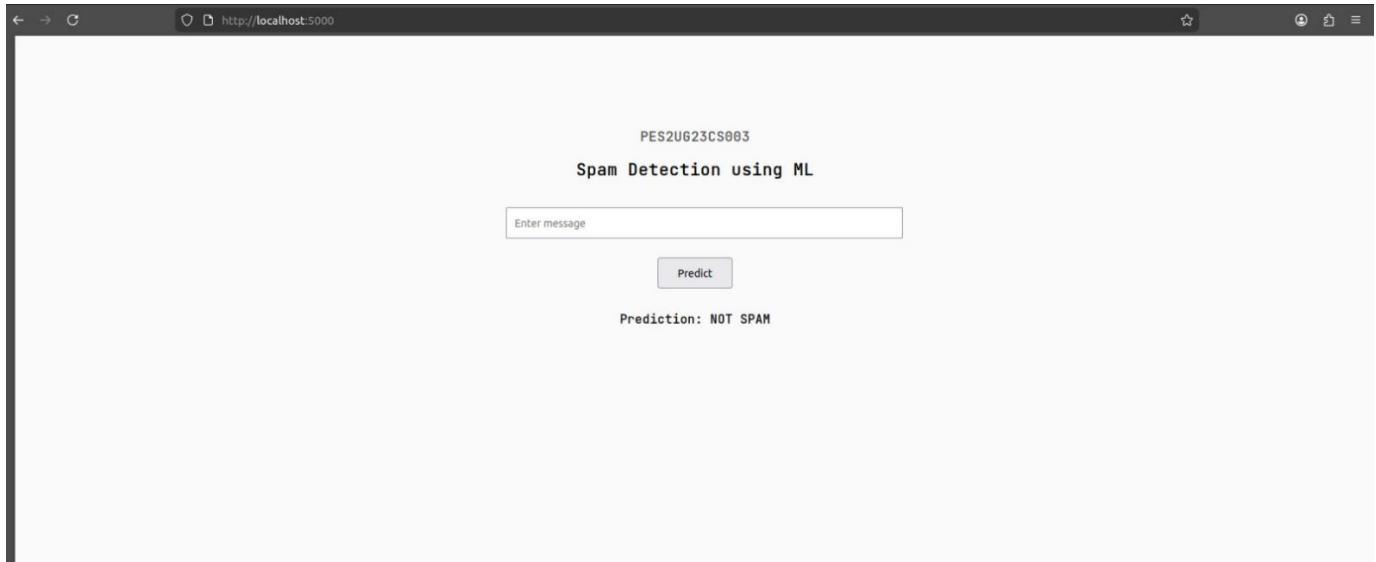
SS-4

```
Run 1: docker buildx build --no-cache -t spam-web-app-pes2ug23cs003 .
[+] Building 27.5s (12/12) FINISHED
      docker:default
--> [internal] load build definition from Dockerfile
--> => transferring dockerfile: 598B
--> [internal] load metadata for docker.io/library/python:3.10-slim
--> [internal] load .dockerrcignore
--> => transferring context: 28
--> [1/7] FROM docker.io/library/python:3.10-slim@sha256:f5d029fe39146b08200bcc73595795ac19b85997ad0e5001a02c7c3
--> => resolve docker.io/library/python:3.10-slim@sha256:f5d029fe39146b08200bcc73595795ac19b85997ad0e5001a02c7c3
--> [internal] load build context
--> => transferring context: 401.17kB
--> [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:d833cd44eacb5173748355dfc33711ebc2b30bd2bc92f918292302377fafc005
--> => exporting config sha256:f2d594a2e937f013456038e02e4acf8b0ac49cd62eedbe7563e8ebcd0a5570a6
--> => exporting attestation manifest sha256:08845d4e00a09a81ea6e98ff822cb8de86dc8ea7b638a1d84ebe9e642fcbe79
--> => exporting manifest list sha256:67eacbcf09ffd1a918fd5547ae2f1ed8e94e88aed83098ac71f74c2ef60d65d3
--> => naming to docker.io/library/spam-web-app-pes2ug23cs003:latest
--> => unpacking to docker.io/library/spam-web-app-pes2ug23cs003:latest
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-5

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker run -d -p 5000:5000 spam-web-app-pes2ug23cs003
e4191f0eb3f33aa4a2a31f257856d44df5b20c1607e72bae37fd80b5b3245742
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
NAMES
e4191f0eb3f3        spam-web-app-pes2ug23cs003   "python app.py"   55 seconds ago    Up 54 seconds   0.0.0.0:5000->5000/tcp,
[::]:5000->5000/tcp   condescending_shockley
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-6



SS-7

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker login
USING WEB-BASED LOGIN
Info → To sign in with credentials on the command line, use 'docker login -u <username>'

Your one-time device confirmation code is: RDSW-RQVK
Press ENTER to open your browser or submit your device code here: https://login.docker.com/activate

Waiting for authentication in the browser...

WARNING! Your credentials are stored unencrypted in '/root/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/

Login Succeeded
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

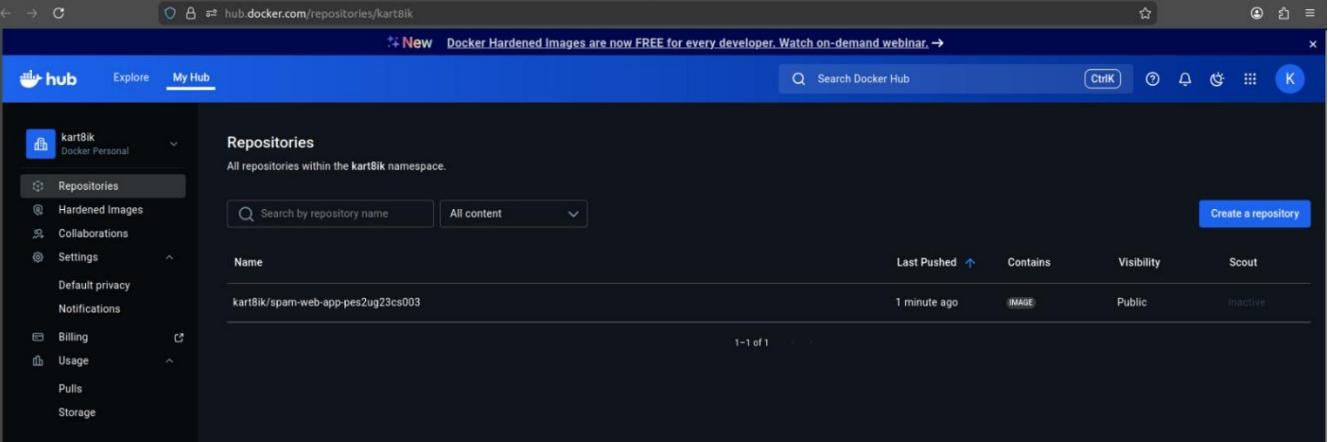
SS-8

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker tag spam-web-app-pes2ug23cs003 kart8ik
/pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker images
          i Info →   U In Use
IMAGE           ID      DISK USAGE    CONTENT SIZE    EXTRA
hello-world:latest 05813aedc15f    25.9kB     9.52kB      U
kart8ik/spam-web-app-pes2ug23cs003:v1 67eacbcf09ff    541MB     125MB      U
python:3.10-slim   f5d029fe3914    185MB     47.1MB      U
spam-web-app-pes2ug23cs003:latest       67eacbcf09ff    541MB     125MB      U
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-9

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker push kart8ik/spam-web-app-pes2ug23cs003:v1
The push refers to repository [docker.io/kart8ik/spam-web-app-pes2ug23cs003]
1c9ded5f8f3c: Pushed
ed8cfdf59ed51: Mounted from library/python
119d43eec815: Mounted from library/python
3be0dab2d9cd: Pushed
29c4b1f6a3ad: Pushed
80d9225ac541: Pushed
47c2bec0e44b: Mounted from library/python
af233a02f79e: Mounted from library/python
bd5520d9ff98: Pushed
0c21ff8841ea: Pushed
12c956b9407d: Pushed
v1: digest: sha256:67eacbcf09ffd1a918fd5547ae2f1ed8e94e88aed83098ac71f74c2ef60d65d3 size: 856
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-10



The screenshot shows the Docker Hub interface for the user 'kart8ik'. The left sidebar shows the user's personal space with sections for Repositories, Hardened Images, Collaborations, Settings, Billing, Usage, Pulls, and Storage. The main area is titled 'Repositories' and displays a single repository: 'kart8ik/spam-web-app-pes2ug23cs003'. This repository was last pushed a minute ago, is public, and has an inactive status. A 'Create a repository' button is visible at the top right of the table.

SS-11

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS
NAMES
e4191f0eb3f3      spam-web-app-pes2ug23cs003   "python app.py"    20 minutes ago     Up 20 minutes   0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker stop ^C
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker stop e4191f0eb3f3
e4191f0eb3f3
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ docker ps
permission denied while trying to connect to the docker API at unix:///var/run/docker.sock
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS
NAMES
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-12

```
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
e4191f0eb3f3 spam-web-app-pes2ug23cs003 "python app.py" 22 minutes ago Exited (137) About a minute ago
    condescending_shockley
a2a6c155ea52 hello-world "/hello" 46 minutes ago Exited (0) 46 minutes ago
    sad_cartwright
79796043df83 hello-world "/hello" 53 minutes ago Exited (0) 53 minutes ago
    distracted_tu
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker rm e4191f0eb3f3
e4191f0eb3f3
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
a2a6c155ea52 hello-world "/hello" 47 minutes ago Exited (0) 47 minutes ago
    sad_cartwright
79796043df83 hello-world "/hello" 54 minutes ago Exited (0) 54 minutes ago
    distracted_tu
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-13

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker images
l Info → U In Use
IMAGE ID DISK USAGE CONTENT SIZE EXTRA
hello-world:latest 05813aedc15f 25.9kB 9.52kB U
kart8ik/spam-web-app-pes2ug23cs003:v1 67eacbcf09ff 541MB 125MB
python:3.10-slim f5d029fe3914 185MB 47.1MB
spam-web-app-pes2ug23cs003:latest 67eacbcf09ff 541MB 125MB
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker rmi spam-web-app-pes2ug23cs003
Untagged: spam-web-app-pes2ug23cs003:latest
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker images
l Info → U In Use
IMAGE ID DISK USAGE CONTENT SIZE EXTRA
hello-world:latest 05813aedc15f 25.9kB 9.52kB U
kart8ik/spam-web-app-pes2ug23cs003:v1 67eacbcf09ff 541MB 125MB
python:3.10-slim f5d029fe3914 185MB 47.1MB
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker image prune -a
WARNING! This will remove all images without at least one container associated to them.
Are you sure you want to continue? [y/N] y
Deleted Images:
untagged: kart8ik/spam-web-app-pes2ug23cs003:v1
deleted: sha256:67eacbcf09fd1a918fd5547ae2f1ed8e94e88aed83098ac71f74c2ef60d65d3
deleted: sha256:d833cd44eacb5173748355dfc33711ebc2b30bd2bc92f918292302377fafc005
deleted: sha256:08845d4e00a09a81ea6e98ffb82bcb8de86dc8ea7b638a1d84ebe9e642fcbe79
untagged: python:3.10-slim
deleted: sha256:f5f58ff5279124d4a2162001da514e03951c5c681eb4dc3c7c58a28f178eb8688

Total reclaimed space: 2.227MB
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker images
l Info → U In Use
IMAGE ID DISK USAGE CONTENT SIZE EXTRA
hello-world:latest 05813aedc15f 25.9kB 9.52kB U
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```

SS-14

```
1 PES2UG23CS003
2
3 docker image prune -a
4
```

SS-15

```
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker pull kart8ik/spam-web-app-pes2ug23cs003:v1
v1: Pulling from kart8ik/spam-web-app-pes2ug23cs003
1c9ded5f8f3c: Pull complete
12c956b9407d: Pull complete
29c4b1f6a3ad: Pull complete
3be0dab2d9cd: Pull complete
bd5520d9ff98: Pull complete
0c21ff8841ea: Pull complete
80d9225ac541: Download complete
Digest: sha256:67eacbcf09ffd1a918fd5547ae2f1ed8e94e88aed83098ac71f74c2ef60d65d3
Status: Downloaded newer image for kart8ik/spam-web-app-pes2ug23cs003:v1
docker.io/kart8ik/spam-web-app-pes2ug23cs003:v1
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$ sudo docker images
          i Info →   U In Use
IMAGE           ID          DISK USAGE    CONTENT SIZE    EXTRA
hello-world:latest 05813aedc15f    25.9kB      9.52kB      U
kart8ik/spam-web-app-pes2ug23cs003:v1 67eacbcf09ff    541MB     125MB
pes2ug23cs003@pes2ug23cs003:~/PES2UG23CS003/ml-docker-PES2UG23CS003$
```