

## Cloud computing assignment 2

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SRN- PES2UG21CS183

SECTION- D

1a.jpg

```
C:\Windows\System32\cmd.exe x + v
Microsoft Windows [Version 10.0.22631.3085]
(c) Microsoft Corporation. All rights reserved.

D:\6th sem\CLOUD_COMPUTING\CC LAB\HAMSINI RAMESH\PES2UG21CS183>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/

D:\6th sem\CLOUD_COMPUTING\CC LAB\HAMSINI RAMESH\PES2UG21CS183>
```

2a.jpg

```
C:\Windows\System32\cmd.exe x + v
D:\6th sem\CLOUD_COMPUTING\CC LAB\HAMSINI RAMESH\PES2UG21CS183\TASK2>docker-compose up
[+] Building 0.0s (0/0) docker:default
2024/02/09 10:37:16 http2: server: error reading preface from client //pipe/docker_engine: file has already been close[+] Building 0.3s (9/9) FINISHED
docker:default
=> [pycode internal] load build definition from Dockerfile 0.0s
=> transferring dockerfile: 150B 0.0s
=> [pycode internal] load metadata for docker.io/library/python:latest 0.0s
=> [pycode internal] load .dockerignore 0.0s
=> transferring context: 2B 0.0s
=> [pycode 1/4] FROM docker.io/library/python:latest 0.0s
=> [pycode internal] load build context 0.0s
=> transferring context: 441B 0.0s
=> CACHED [pycode 2/4] RUN apt-get update 0.0s
=> CACHED [pycode 3/4] RUN pip install pymongo 0.0s
=> CACHED [pycode 4/4] COPY sample.py sample.py 0.0s
=> [pycode] exporting to image 0.0s
=> exporting layers 0.0s
=> writing image sha256:acaa89550c5436912f7e4af80e013c5c39e28b1449305b399a38f15f2b4a7b4a 0.0s
=> naming to docker.io/library/task2-pycode 0.0s
[+] Running 3/3
  Network task2_default Created 0.1s
  Container task2-mongodb-1 Created 0.1s
  Container task2-pycode-1 Created 0.1s
Attaching to mongodb-1, pycode-1
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.144+00:00"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"main","msg":"Automatically disabling TLS 1.0, to
force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.145+00:00"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"main","msg":"Initialized wire specification","att
r":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"
minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.146+00:00"},"s":"I", "c":"NETWORK", "id":4648601, "ctx":"main","msg":"Implicit TCP FastOpen unavailable. I
f TCP FastOpen is required, set tcpFastOpenServer, tcpFastOpenClient, and tcpFastOpenQueueSize."}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.152+00:00"},"s":"I", "c":"REPL", "id":5123008, "ctx":"main","msg":"Successfully registered PrimaryOnlyS
ervice","attr":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.152+00:00"},"s":"I", "c":"REPL", "id":5123008, "ctx":"main","msg":"Successfully registered PrimaryOnlyS
ervice","attr":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.152+00:00"},"s":"I", "c":"CONTROL", "id":5945603, "ctx":"main","msg":"Multi threading initialized"}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.153+00:00"},"s":"I", "c":"TENANT_M", "id":7091600, "ctx":"main","msg":"Starting TenantMigrationAccessBlocke
rRegistry"}
mongodb-1 | [{"t":{"$date":"2024-02-09T05:07:18.153+00:00"},"s":"I", "c":"CONTROL", "id":4615611, "ctx":"initandlisten","msg":"MongoDB starting","attr":{"
pid":1,"port":27017,"dbPath":"/data/db","architecture":"64-bit","host":"ec319289178e"}}]
```

## 2b.jpg

```
C:\Windows\System32\cmd.exe x + v
D:\6th sem\CLoud_COMPUTING\CC LAB\HAMSINI RAMESH\PES2UG21CS183\TASK2>docker-compose up --scale pycode=3
[+] Running 4/4
  Container task2-mongodb-1 Created 0.0s
  Container task2-pycode-1 Created 0.0s
  Container task2-pycode-3 Created 0.2s
  Container task2-pycode-2 Created 0.2s
Attaching to mongodb-1, pycode-1, pycode-2, pycode-3
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.559+00:00"},"s":"I", "c":"CONTROL", "id":23285, "ctx":"main","msg":"Automatically disabling TLS 1.0, to
force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.559+00:00"},"s":"I", "c":"NETWORK", "id":4915701, "ctx":"main","msg":"Initialized wire specification","att
r":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"
minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.568+00:00"},"s":"I", "c":"NETWORK", "id":4648601, "ctx":"main","msg":"Implicit TCP FastOpen unavailable. I
f TCP FastOpen is required, set tcpFastOpenServer, tcpFastOpenClient, and tcpFastOpenQueueSize."}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.581+00:00"},"s":"I", "c":"REPL", "id":5123808, "ctx":"main","msg":"Successfully registered PrimaryOnlyS
ervice","attr":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.582+00:00"},"s":"I", "c":"REPL", "id":5123808, "ctx":"main","msg":"Successfully registered PrimaryOnlyS
ervice","attr":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.582+00:00"},"s":"I", "c":"CONTROL", "id":5945603, "ctx":"main","msg":"Multi threading initialized"}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.583+00:00"},"s":"I", "c":"TENANT_M", "id":7091600, "ctx":"main","msg":"Starting TenantMigrationAccessBlocke
rRegistry"}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.585+00:00"},"s":"I", "c":"CONTROL", "id":4615611, "ctx":"initandlisten","msg":"MongoDB starting","attr":{"
pid":1,"port":27017,"dbPath":"/data/db","architecture":"64-bit","host":"ec319289178e"}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.585+00:00"},"s":"I", "c":"CONTROL", "id":23403, "ctx":"initandlisten","msg":"Build Info","attr":{"buildI
nfo":{"version":"7.0.5","gitVersion":"7809d71e84e314b497f282ea8aa06d7ded3eb205","opensslVersion":"OpenSSL 3.0.2 15 Mar 2022","modules":[],"allocator":"tcmal
loc","environment":{"buildType":"ubuntu2204","distarch":"x86_64","target_arch":"x86_64"}}}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.585+00:00"},"s":"I", "c":"CONTROL", "id":51765, "ctx":"initandlisten","msg":"Operating System","attr":{"
os":{"name":"Ubuntu","version":"22.04"}}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.585+00:00"},"s":"I", "c":"CONTROL", "id":21951, "ctx":"initandlisten","msg":"Options set by command line
","attr":{"options":{"net":{"bindIp":"*"}}}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.590+00:00"},"s":"I", "c":"STORAGE", "id":22270, "ctx":"initandlisten","msg":"Storage engine to use detec
ted by data files","attr":{"dbpath":"/data/db","storageEngine":"wiredTiger"}}}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.590+00:00"},"s":"I", "c":"STORAGE", "id":22297, "ctx":"initandlisten","msg":"Using the XFS filesystem is
strongly recommended with the WiredTiger storage engine. See http://dochub.mongodb.org/core/prodnotes-filesystem","tags":["startupWarnings"]}
mongodb-1 | {"t":{"$date":"2024-02-09T05:08:31.591+00:00"},"s":"I", "c":"STORAGE", "id":22315, "ctx":"initandlisten","msg":"Opening WiredTiger","attr":
{"config":{"create_cache_size=1401M,session_max=33800,eviction=(threads_min=4,threads_max=4),config_base=false,statistics=(fast),log=(enabled=true,remove=tru
e,path=journal,compressor=snappy),builtin_extension_config=(zstd=(compression_level=6),file_manager=(close_idle_time=600,close_scan_interval=10,close_handl
e_minimum=2000),statistics_log=(wait=0),json_output=(error,message),verbose=(recovery_progress:1,checkpoint_progress:1,compact_progress:1,backup:0,checkpoi
nt:0,compact:0,evict:0,history_store:0,recovery:0,rts:0,salvage:0,tiered:0,timestamp:0,transaction:0,verify:0,log:0),"}}}
24°C Sunny
```

## Task 3

## 3a.jpg

```
C:\Windows\System32\cmd.exe x + v
D:\6th sem\hamsini_ramesh\PES2UG21CS183\task3\task3-pymongo>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
23e5f8cf6649   mongo         "docker-entrypoint.s..." 4 minutes ago   Created
6332b3b03a8e   99cbffc059d1  "/docker-entrypoint..." 9 minutes ago   Exited (0)    8 minutes ago
e9354d4faeb9c   289464ab772c  "python sample.py"        18 minutes ago  Exited (1)    18 minutes ago
6069d612fa4e   289464ab772c  "python sample.py"        25 minutes ago  Exited (1)    24 minutes ago
04df38ff8b79   289464ab772c  "python sample.py"        30 minutes ago  Exited (1)    29 minutes ago
44eac6372eb    289464ab772c  "python sample.py"        30 minutes ago  Exited (1)    30 minutes ago
a25ea8411552   289464ab772c  "python sample.py"        31 minutes ago  Exited (1)    31 minutes ago
5bb2659bd709   289464ab772c  "python sample.py"        34 minutes ago  Exited (1)    34 minutes ago
5437bfea8d2a   289464ab772c  "python sample.py"        36 minutes ago  Exited (1)    35 minutes ago
bbalbbc39d01   289464ab772c  "python sample.py"        37 minutes ago  Exited (1)    37 minutes ago
76ef299c3a8b   mongo         "docker-entrypoint.s..." About an hour ago Up About an hour    0.0.0.0:27017->27017/tcp   quirky_curran
1b77f40ca918   289464ab772c  "python sample.py"        About an hour ago Exited (1)    About an hour ago
stupefied_kilby task2-pycode  "python sample.py"        About an hour ago Exited (0)    About an hour ago
a624f3955968   task2-pycode  "python sample.py"        About an hour ago Exited (0)    About an hour ago
bc53dbfdcf0c4 task2-pycode  "python sample.py"        About an hour ago Exited (0)    About an hour ago
a158db57de23   task2-pycode  "python sample.py"        About an hour ago Exited (0)    About an hour ago
970fec8aef14   mongo         "docker-entrypoint.s..." About an hour ago Exited (0)    About an hour ago
7add4d48c28e   hello-world   "/hello"                  About an hour ago Exited (0)    About an hour ago
08c76161722e   hello-world   "/hello"                  About an hour ago Exited (0)    About an hour ago
magical_hamilton hello-world    "/hello"                  2 hours ago     Exited (0)    2 hours ago
22106facc90b   hello-world    "/hello"                  2 hours ago     Exited (0)    2 hours ago
24°C Sunny
```

```
C:\Windows\System32\cmd.e x + v

"IPPrefixLen": 0,
"IPv6Gateway": "",
"GlobalIPv6Address": "",
"GlobalIPv6PrefixLen": 0,
"DriverOpts": null,
"DNSNames": [
  "task2-mongodb-1",
  "mongodb",
  "970fec8aef14"
]
}
}
}
]

D:\6th sem\hamsini_ramesh\PES2UG21CS183\task2>docker build -t task3 .
[+] Building 0.3s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 150B
=> [internal] load metadata for docker.io/library/python:latest
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/4] FROM docker.io/library/python:latest
=> [internal] load build context
=> => transferring context: 31B
=> CACHED [2/4] RUN apt-get update
=> CACHED [3/4] RUN pip install pymongo
=> CACHED [4/4] COPY sample.py sample.py
=> exporting to image
=> => exporting layers
=> => writing image sha256:289464ab772c2900bfff5653d6b70c2253fe7b65344b1c9f2dfbc476e48e6882
=> => naming to docker.io/library/task3

View build details: docker-desktop:///dashboard/build/default/default/3ek7ep988ib9pbs4g81ojyax7

What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview

D:\6th sem\hamsini_ramesh\PES2UG21CS183\task2>
```

3b.jpg



**My SRN is PES2UG21CS183**

I am running a nginx container!



3c.jpg

```
D:\6th sem\hamsini_ramesh\PES2UG21CS183\task3\task3-pymongo>docker run task3
Inserted into the MongoDB database!
Fetched from MongoDB: {'_id': ObjectId('65c5caae1cd0e7346470a7e0'), 'Name': 'your_name', 'SRN': 'your_srn'}
```

3d.jpg

```
D:\6th sem\hamsini_ramesh\PES2UG21CS183\task3\task3-pymongo>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAME
76ef299c3a8b   mongo     "docker-entrypoint.s..." About an hour ago Up About an hour   0.0.0.0:27017->27017/tcp   quir
ky_curran
```

4a.jpg

```
D:\6th sem\hamsini_ramesh\PES2UG21CS183\task4>docker login -u "hamsram26017" -p "jasmine26**" docker.io
WARNING! Using --password via the CLI is insecure. Use --password-stdin.
Login Succeeded
```

4b

The screenshot shows the Docker Desktop interface. The left sidebar contains navigation options: Containers, Images, Volumes, Builds, Dev Environments, Docker Scout, and Extensions. The main panel displays the details for the image **hamsram26017/task4:1.0**, which is marked as **IN USE**. It shows the image was created 4 minutes ago and has a size of 220.65 MB. A banner for Docker Scout is visible, indicating advanced image analysis is provided. The **Image hierarchy** section shows the image is built from **ubuntu:18.04, bionic, bionic-20230530**. The **Layers (11)** section lists the build steps, including ARG definitions, LABELs, and the addition of files and commands. The **Images (2)** section compares the current image with the **FROM ubuntu:18.04** base image, showing that no vulnerabilities were found in either. The **Vulnerabilities (0)** and **Packages (157)** sections are also visible. The bottom status bar shows the engine is running, with 3.07 GB of RAM and 0.25% CPU usage.