

Cloud Computing Laboratory

Week No: 5

SRN: PES1201801580

1a:

```
root@ip-172-31-37-209:/home/ubuntu
for more information.
ubuntu@ip-172-31-37-209:~$ docker run hello-world
docker: Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post http://%2Fvar%2Frun%2Fdocker.sock/v1.24/containers/create: dial unix /var/run/docker.sock: connect: permission denied.
See 'docker run --help'.
ubuntu@ip-172-31-37-209:~$ sudo -s
root@ip-172-31-37-209:/home/ubuntu# docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
0ae3bdc26d7: Pull complete
Digest: sha256:95dddb631407e84e91a986b004ee40975cb0bda14b5949f6faac5d2deadb49
Status: Downloaded newer image for hello-world:latest

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/
root@ip-172-31-37-209:/home/ubuntu# PES1201801580
```

2a:

```
root@ip-172-31-37-209:/home/ubuntu/task_b
root@ip-172-31-37-209:/home/ubuntu/task_b# docker run taskb
Running this inside a container!
My SRN is PES1201801580
root@ip-172-31-37-209:/home/ubuntu/task_b#
```

3a:

My SRN is PES1201801580>

I am running a nginx container!

3b:

```
root@ip-172-31-37-209: /home/ubuntu/task3
root@ip-172-31-37-209:/home/ubuntu/task3# docker run -p 80:80 taskc
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
```

3c:

```
root@ip-172-31-37-209: /home/ubuntu/task3
root@ip-172-31-37-209:/home/ubuntu/task3# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
a80ad677aa30   mongo     "docker-entrypoint.s..." 6 minutes ago  Up 6 minutes  0.0.0.0:27017->27017/tcp  friendly_engelbart
root@ip-172-31-37-209:/home/ubuntu/task3# docker run taskc2
Inserted into the MongoDB database!
Fetched from MongoDB: {'_id': ObjectId('6030e71c014af1baf4c2926e'), 'Name': 'K. Sreesh Reddy', 'SRN': 'PES1201801580'}
root@ip-172-31-37-209:/home/ubuntu/task3#
```

3d:

```
root@ip-172-31-44-58:/home/ubuntu/task3# docker run -dp 27017:27017 --network=my-bridge-network --name=mongodb mongo:latest
dcc043eee9776dd8e55881a5f1f787eb3d94595c7e0a9d2f26d43176c94e83a6
root@ip-172-31-44-58:/home/ubuntu/task3# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
dcc043eee977   mongo:late "docker-entrypoint.s..." 33 seconds ago  Up 33 seconds  0.0.0.0:27017->27017/tcp  mongodb
```

3e:

```
root@ip-172-31-44-58:/home/ubuntu/task3# docker run --network=my-bridge-network taskc2
Inserted into the MongoDB database!
Fetched from MongoDB: {'_id': ObjectId('6030f95bcd7cf77416fe510e'), 'Name': 'K. Sreesh Reddy', 'SRN': 'PES1201801580'}
```

4a:

```

root@root@ip-172-31-44-58:/home/ubuntu/task4.1
ovided": {"uid": {"$uid": "e1a7fd70-8440-4eb3-931c-cb19c23638b0"}}, "options": {"uid": {"$uid": "e1a7fd70-8440-4eb3-931c-cb19c23638b0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.509+00:00"}, "s": "I", "c": "INDEX", "id": 20345, "ctx": {"initandlisten", "msg": "Index build: done building", "attr": {"buildUUID": null, "namespace": "admin.system.ver
sion", "index": "id", "commitTimestamp": {"$timestamp": {"t": 0, "i": 0}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.509+00:00"}, "s": "I", "c": "COMMAND", "id": 20459, "ctx": {"initandlisten", "msg": "Setting featureCompatibilityVersion", "attr": {"newVersion": "4.4"}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.570+00:00"}, "s": "I", "c": "STORAGE", "id": 20362, "ctx": {"initandlisten", "msg": "Flow Control is enabled on this deployment"}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.571+00:00"}, "s": "I", "c": "STORAGE", "id": 20320, "ctx": {"initandlisten", "msg": "createCollection", "attr": {"namespace": "local.startup_log", "uidDisposition": "gener
ated", "uid": {"$uid": "56ef6d75-baeb-471e-b05f-ea77f69af986"}}, "options": {"capped": true, "size": 10485760}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.582+00:00"}, "s": "I", "c": "INDEX", "id": 20345, "ctx": {"initandlisten", "msg": "Index build: done building", "attr": {"buildUUID": null, "namespace": "local.startup_lo
g", "index": "id", "commitTimestamp": {"$timestamp": {"t": 0, "i": 0}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.582+00:00"}, "s": "I", "c": "FTDC", "id": 20625, "ctx": {"initandlisten", "msg": "Initializing full-time diagnostic data capture", "attr": {"dataDirectory": "/data/db/
diagnostic.data"}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.584+00:00"}, "s": "I", "c": "STORAGE", "id": 20320, "ctx": {"LogicalSessionCacheRefresh", "msg": "createCollection", "attr": {"namespace": "config.system.sessions", "uidID
isposition": "generated", "uid": {"$uid": "b5e0015-085f-4025-90bd-2580899d4fb4"}}, "options": {}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.585+00:00"}, "s": "I", "c": "CONTROL", "id": 20712, "ctx": {"LogicalSessionCacheReap", "msg": "Sessions collection is not set up; waiting until next sessions reap inte
rval", "attr": {"error": "NamespacelotFound: config.system.sessions does not exist"}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.585+00:00"}, "s": "I", "c": "NETWORK", "id": 23015, "ctx": {"listener", "msg": "Listening on", "attr": {"address": "/tmp/mongod-27017.sock"}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.585+00:00"}, "s": "I", "c": "NETWORK", "id": 23015, "ctx": {"listener", "msg": "Listening on", "attr": {"address": "0.0.0.0"}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.585+00:00"}, "s": "I", "c": "NETWORK", "id": 23016, "ctx": {"listener", "msg": "Waiting for connection", "attr": {"port": 27017, "ssl": "off"}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.600+00:00"}, "s": "I", "c": "INDEX", "id": 20345, "ctx": {"LogicalSessionCacheRefresh", "msg": "Index build: done building", "attr": {"buildUUID": null, "namespace": "con
fig.system.sessions", "index": "id", "commitTimestamp": {"$timestamp": {"t": 0, "i": 0}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.600+00:00"}, "s": "I", "c": "INDEX", "id": 20345, "ctx": {"LogicalSessionCacheRefresh", "msg": "Index build: done building", "attr": {"buildUUID": null, "namespace": "con
fig.system.sessions", "index": "id", "commitTimestamp": {"$timestamp": {"t": 0, "i": 0}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.904+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.3:41478", "connectionId": 1, "connectionCo
unt": 1}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.905+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn1", "msg": "client metadata", "attr": {"remote": "172.20.0.3:41478", "client": "conn1", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.906+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.3:41480", "connectionId": 2, "connectionCo
unt": 2}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.907+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.3:41482", "connectionId": 3, "connectionCo
unt": 3}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.907+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn2", "msg": "client metadata", "attr": {"remote": "172.20.0.3:41480", "client": "conn2", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.907+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn3", "msg": "client metadata", "attr": {"remote": "172.20.0.3:41482", "client": "conn3", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.908+00:00"}, "s": "I", "c": "STORAGE", "id": 20320, "ctx": {"conn2", "msg": "createCollection", "attr": {"namespace": "sample_db.sample_collection", "uidDisposition": "gen
erated", "uid": {"$uid": "6c149846-9951-41af-b020-1f191d1ae010"}}, "options": {}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:54.922+00:00"}, "s": "I", "c": "INDEX", "id": 20345, "ctx": {"conn2", "msg": "Index build: done building", "attr": {"buildUUID": null, "namespace": "sample_db.sample_collect
ion", "index": "id", "commitTimestamp": {"$timestamp": {"t": 0, "i": 0}}}}
pycode_1 | Inserted into the MongoDB database!
pycode_1 | Fetched from MongoDB: {'_id': ObjectId('603103ce67d857e6d4bb5e'), 'Name': 'K. Sreesh Reddy', 'SRN': 'PES1201801580'}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:55.409+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn1", "msg": "Connection ended", "attr": {"remote": "172.20.0.3:41478", "connectionId": 1, "connectionCount": 2}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:55.412+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn2", "msg": "Connection ended", "attr": {"remote": "172.20.0.3:41480", "connectionId": 2, "connectionCount": 1}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:42:55.412+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn3", "msg": "Connection ended", "attr": {"remote": "172.20.0.3:41482", "connectionId": 3, "connectionCount": 0}}}
task4.1_pycode_1 exited with code 0

```

4b:

```

root@root@ip-172-31-44-58:/home/ubuntu/task4.1
unt": 3}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.256+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn1", "msg": "client metadata", "attr": {"remote": "172.20.0.3:41492", "client": "conn3", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
pycode_1 | Inserted into the MongoDB database!
pycode_1 | Fetched from MongoDB: {'_id': ObjectId('603103ce67d857e6d4bb5e'), 'Name': 'K. Sreesh Reddy', 'SRN': 'PES1201801580'}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.293+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.5:41250", "connectionId": 4, "connectionCo
unt": 4}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.294+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn4", "msg": "client metadata", "attr": {"remote": "172.20.0.5:41250", "client": "conn4", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.296+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.5:41252", "connectionId": 5, "connectionCo
unt": 5}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.297+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn5", "msg": "client metadata", "attr": {"remote": "172.20.0.5:41252", "client": "conn5", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
pycode_3 | Inserted into the MongoDB database!
pycode_3 | Fetched from MongoDB: {'_id': ObjectId('603103ce67d857e6d4bb5e'), 'Name': 'K. Sreesh Reddy', 'SRN': 'PES1201801580'}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.299+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.5:41254", "connectionId": 6, "connectionCo
unt": 6}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.299+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn6", "msg": "Connection ended", "attr": {"remote": "172.20.0.5:41254", "connectionId": 6, "connectionCount": 5}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.334+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.4:52472", "connectionId": 7, "connectionCo
unt": 6}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.335+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn7", "msg": "client metadata", "attr": {"remote": "172.20.0.4:52472", "client": "conn7", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.336+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.4:52474", "connectionId": 8, "connectionCo
unt": 7}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.337+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn8", "msg": "client metadata", "attr": {"remote": "172.20.0.4:52474", "client": "conn8", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.337+00:00"}, "s": "I", "c": "NETWORK", "id": 22943, "ctx": {"listener", "msg": "Connection accepted", "attr": {"remote": "172.20.0.4:52476", "connectionId": 9, "connectionCo
unt": 8}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.338+00:00"}, "s": "I", "c": "NETWORK", "id": 23000, "ctx": {"conn9", "msg": "client metadata", "attr": {"remote": "172.20.0.4:52476", "client": "conn9", "doc": {"driver": {"na
me": "PyMongo", "version": "3.11.3"}, "os": {"type": "Linux", "name": "Linux", "architecture": "x86_64", "version": "5.4.0-1037-aws", "platform": "CPython 3.9.2.final.0"}}}}
pycode_2 | Inserted into the MongoDB database!
pycode_2 | Fetched from MongoDB: {'_id': ObjectId('603103ce67d857e6d4bb5e'), 'Name': 'K. Sreesh Reddy', 'SRN': 'PES1201801580'}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.755+00:00"}, "s": "I", "c": "NETWORK", "id": 20883, "ctx": {"conn1", "msg": "Interrupted operation as its client disconnected", "attr": {"opId": 19}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.756+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn2", "msg": "Connection ended", "attr": {"remote": "172.20.0.3:41488", "connectionId": 1, "connectionCount": 7}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.760+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn2", "msg": "Connection ended", "attr": {"remote": "172.20.0.3:41490", "connectionId": 2, "connectionCount": 6}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.761+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn3", "msg": "Connection ended", "attr": {"remote": "172.20.0.3:41492", "connectionId": 3, "connectionCount": 5}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.797+00:00"}, "s": "I", "c": "NETWORK", "id": 20883, "ctx": {"conn4", "msg": "Interrupted operation as its client disconnected", "attr": {"opId": 24}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.801+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn5", "msg": "Connection ended", "attr": {"remote": "172.20.0.5:41252", "connectionId": 5, "connectionCount": 4}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.802+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn4", "msg": "Connection ended", "attr": {"remote": "172.20.0.5:41250", "connectionId": 4, "connectionCount": 3}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.837+00:00"}, "s": "I", "c": "NETWORK", "id": 20883, "ctx": {"conn7", "msg": "Interrupted operation as its client disconnected", "attr": {"opId": 30}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.837+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn7", "msg": "Connection ended", "attr": {"remote": "172.20.0.4:52472", "connectionId": 7, "connectionCount": 2}}}
mongod_1 | {"t": {"$date": "2021-02-20T12:44:40.843+00:00"}, "s": "I", "c": "NETWORK", "id": 22944, "ctx": {"conn8", "msg": "Connection ended", "attr": {"remote": "172.20.0.4:52474", "connectionId": 8, "connectionCount": 1}}}

```

5a:

```

root@root@ip-172-31-44-58:/home/ubuntu/PES1201801580
root@ip-172-31-44-58:/home/ubuntu/PES1201801580# docker run --mount type=bind,source=/home/ubuntu/PES1201801580,target=/home/ubuntu -it --entrypoint bash python
root@20fc13e3b51f:/# cd /home/ubuntu
root@20fc13e3b51f:/home/ubuntu# ls
Dockerfile details.txt sample.py
root@20fc13e3b51f:/home/ubuntu# python sample.py
line 1: My name is K. Sreesh Reddy
line 2: My SRN is PES1201801580
line 3: I am from E Section
line 4: I am in my 6th semester
root@20fc13e3b51f:/home/ubuntu#

```