SINCHANA S

CC LAB

PES1UG21CS596

1a.jpg: Screenshot of running docker hello-world.

2a.jpg: Screenshot of python-mongodb application running as a docker-compose application(logs of the application)

2b.jpg: Screenshot of 3 python application writes and reads from MongoDB after scaling the python application.

```
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK2> docker-compose up --scale pycode=3
[+] Running 4/0
 ✓ Container task2-mongodb-1   Created                                                                          0.0s
 ✓ Container task2-pycode-1    Created                                                                          0.0s
 ✓ Container task2-pycode-3    Created                                                                          0.0s
 ✓ Container task2-pycode-2    Created                                                                          0.0s
Attaching to task2-mongodb-1, task2-pycode-1, task2-pycode-2, task2-pycode-3
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.323+00:00"},"s":"I",  "c":"CONTROL",  "id":23285,   "ctx":"main","
msg":"Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.333+00:00"},"s":"I",  "c":"NETWORK",  "id":4915701, "ctx":"main","
msg":"Initialized wire specification","attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},
"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoing":{"minWireVersion":6,"maxWireVersion":21},"i
sInternalClient":true}}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.334+00:00"},"s":"I",  "c":"NETWORK",  "id":4648601, "ctx":"main","
msg":"Implicit TCP FastOpen unavailable. If TCP FastOpen is required, set tcpFastOpenServer, tcpFastOpenClient, and tcpF
astOpenQueueSize."}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.348+00:00"},"s":"I",  "c":"REPL",     "id":5123008, "ctx":"main","
msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationDonorService","namespace":"config.te
nantMigrationDonors"}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.349+00:00"},"s":"I",  "c":"REPL",     "id":5123008, "ctx":"main","
msg":"Successfully registered PrimaryOnlyService","attr":{"service":"TenantMigrationRecipientService","namespace":"confi
g.tenantMigrationRecipients"}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.349+00:00"},"s":"I",  "c":"CONTROL",  "id":5945603, "ctx":"main","
msg":"Multi threading initialized"}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.349+00:00"},"s":"I",  "c":"TENANT_M", "id":7091600, "ctx":"main","
msg":"Starting TenantMigrationAccessBlockerRegistry"}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.352+00:00"},"s":"I",  "c":"CONTROL",  "id":4615611, "ctx":"initand
listen","msg":"MongoDB starting","attr":{"pid":1,"port":27017,"dbPath":"/data/db","architecture":"64-bit","host":"7d42fd
ecd70e"}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:44.352+00:00"},"s":"I",  "c":"CONTROL",  "id":23403,   "ctx":"initand
```

```
"msg":"Connection ended","attr":{"remote":"172.19.0.3:37888","uuid":{"uuid":{"$uuid":"7c66a717-0e82-444e-bf2b-880802ea5b
2d"}},"connectionId":2,"connectionCount":7}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.201+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn3",
"msg":"Connection ended","attr":{"remote":"172.19.0.3:37904","uuid":{"uuid":{"$uuid":"e462f495-776e-41b3-9381-545b7bfe4e
dd"}},"connectionId":3,"connectionCount":6}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.521+00:00"},"s":"I",  "c":"-",        "id":20883,   "ctx":"conn4",
"msg":"Interrupted operation as its client disconnected","attr":{"opId":22}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.522+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn4",
"msg":"Connection ended","attr":{"remote":"172.19.0.4:52176","uuid":{"uuid":{"$uuid":"8e24d112-23f1-4986-8e94-fe2a5325af
8b"}},"connectionId":4,"connectionCount":5}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.534+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn6",
"msg":"Connection ended","attr":{"remote":"172.19.0.4:52190","uuid":{"uuid":{"$uuid":"0714f5da-6658-4b08-9b08-5a7a31db39
e6"}},"connectionId":6,"connectionCount":4}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.534+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn5",
"msg":"Connection ended","attr":{"remote":"172.19.0.4:52182","uuid":{"uuid":{"$uuid":"faf163da-1928-4d10-aea9-96ff2ceee6
ab"}},"connectionId":5,"connectionCount":3}}
task2-pycode-3 exited with code 0
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.667+00:00"},"s":"I",  "c":"-",        "id":20883,   "ctx":"conn7",
"msg":"Interrupted operation as its client disconnected","attr":{"opId":30}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.668+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn7",
"msg":"Connection ended","attr":{"remote":"172.19.0.5:39470","uuid":{"uuid":{"$uuid":"ecea2d35-03b6-4523-9c47-dbfac9674f
bf"}},"connectionId":7,"connectionCount":2}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.676+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn9",
"msg":"Connection ended","attr":{"remote":"172.19.0.5:39498","uuid":{"uuid":{"$uuid":"86775a3d-1ab2-4a8f-8e9d-8dd6dad8f8
7e"}},"connectionId":9,"connectionCount":1}}
task2-mongodb-1  | {"t":{"$date":"2024-02-06T11:14:46.676+00:00"},"s":"I",  "c":"NETWORK",  "id":22944,   "ctx":"conn8",
"msg":"Connection ended","attr":{"remote":"172.19.0.5:39482","uuid":{"uuid":{"$uuid":"c0db71a8-b152-4983-8174-d838632826
d8"}},"connectionId":8,"connectionCount":0}}
task2-pycode-2 exited with code 0
task2-pycode-1 exited with code 0
```

```
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3> docker build -t task3 .
[+] Building 0.1s (7/7) FINISHED                                                                docker:default
 => [internal] load .dockerignore                                                                         0.0s
 => => transferring context: 2B                                                                           0.0s
 => [internal] load build definition from Dockerfile                                                      0.0s
 => => transferring dockerfile: 83B                                                                       0.0s
 => [internal] load metadata for docker.io/library/nginx:latest                                           0.0s
 => [internal] load build context                                                                         0.0s
 => => transferring context: 28B                                                                          0.0s
 => [1/2] FROM docker.io/library/nginx                                                                     0.0s
 => CACHED [2/2] COPY my.html /usr/share/nginx/html                                                        0.0s
 => exporting to image                                                                                    0.0s
 => => exporting layers                                                                                   0.0s
 => => writing image sha256:591ba360295dba22355354e9691774e6d203bff8f90060fc83b1a67ac3a1439e              0.0s
 => => naming to docker.io/library/task3                                                                   0.0s

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3> |
```
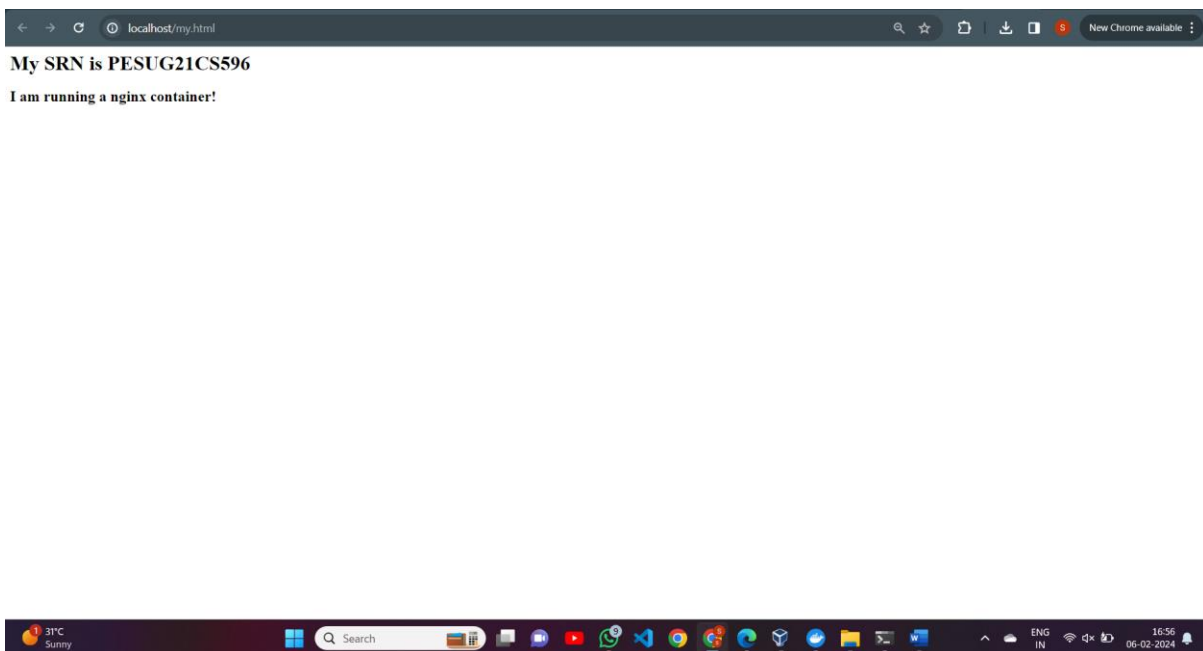
3a.jpg: Screenshot of docker container running nginx


```
  View summary of image vulnerabilities and recommendations → docker scout quickview
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3> docker run -p 80:80 task3
/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: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/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
2024/02/06 11:25:40 [notice] 1#1: using the "epoll" event method
2024/02/06 11:25:40 [notice] 1#1: nginx/1.25.3
2024/02/06 11:25:40 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2024/02/06 11:25:40 [notice] 1#1: OS: Linux 5.15.133.1-microsoft-standard-WSL2
2024/02/06 11:25:40 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2024/02/06 11:25:40 [notice] 1#1: start worker processes
2024/02/06 11:25:40 [notice] 1#1: start worker process 29
2024/02/06 11:25:40 [notice] 1#1: start worker process 30
2024/02/06 11:25:40 [notice] 1#1: start worker process 31
2024/02/06 11:25:40 [notice] 1#1: start worker process 32
2024/02/06 11:25:40 [notice] 1#1: start worker process 33
2024/02/06 11:25:40 [notice] 1#1: start worker process 34
2024/02/06 11:25:40 [notice] 1#1: start worker process 35
2024/02/06 11:25:40 [notice] 1#1: start worker process 36
```

3b.jpg: Sample.html showing the web page on the browser.

localhost/my.html

My SRN is PESUG21CS596

I am running a nginx container!

3c.jpg: Screenshot of python application successfully writing and reading from the MongoDB database

```
What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> docker run task3
Inserted into the MongoDB database!
Fecthed from MongoDB:  {'_id': ObjectId('65c2193cf6a659ca33a85f28'), 'Name:': 'SINCHANA S', 'SRN': 'PES1UG21CS596'}
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> S
```

3d.jpg: Screenshot showing mongodb being run within the network(docker command has to be clearly highlighted)

```
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> docker network create my-bridge-network
ae135c5662921888Z7ce05e3fb357a69cabee1a1efd4468d0a970d3ccaa9ae59a
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> docker run -dp 27017:27017 --network=my-bridge-network --name=mongodb mongo
:latest
7c3329e3ea84ce9a75ecd43abdfad7b315d9b8e2c571eea4392173308b94e4459
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> docker ps -a
CONTAINER ID   IMAGE                       COMMAND                  CREATED          STATUS                    PORTS
    NAMES
7c3329e3ea84   mongo:latest                "docker-entrypoint.s…"   25 seconds ago   Up 23 seconds             0.0.0.0:27017->27017/tcp
    mongodb
f74c74f2a656   task3                       "python sample.py"       2 minutes ago    Exited (0) 2 minutes ago
    beautiful_allen
f2a66f40fcda   mongo                       "docker-entrypoint.s…"   9 minutes ago    Exited (0) About a minute ago
    nervous_booth
090768de75f7   591ba360295d                "/docker-entrypoint.…"   11 minutes ago   Exited (0) 9 minutes ago
    eloquent_driscoll
30b1f5a4a2ea   task2-pycode                "python sample.py"       26 minutes ago   Exited (0) 22 minutes ago
    task2-pycode-3
c44f13e8648c   task2-pycode                "python sample.py"       26 minutes ago   Exited (0) 22 minutes ago
    task2-pycode-2
e18f7f678939   task2-pycode                "python sample.py"       About an hour ago  Exited (0) 22 minutes ago
    task2-pycode-1
7d42fdecd70e   mongo                       "docker-entrypoint.s…"   About an hour ago  Exited (0) 20 minutes ago
    task2-mongodb-1
52bf811696f4   hello-world                 "/hello"                 2 hours ago      Exited (0) 2 hours ago
    jovial_mayer
044d57e3e72a   hello-world                 "/hello"                 2 hours ago      Exited (0) 2 hours ago
    nifty_curie
2a8cc229be4a   hello-world                 "/hello"                 2 hours ago      Exited (0) 2 hours ago
    vibrant_snyder
7e6238177e6a   myjenkins-blueocean:2.332.3-1  "/usr/bin/tini -- /u…"  6 months ago    Exited (0) 2 hours ago    0.0.0.0:8080->8080/tcp, 0.0.0.0:50000->50000/t
cp   jenkins-blueocean
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> |
```

3e.jpg: Screenshot showing python file being run within the network and successfully writing and reading from MongoDB(docker command has to be clearly highlighted)

```
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> docker build -t task3 .
[+] Building 0.2s (9/9) FINISHED
 => [internal] load build definition from Dockerfile
 => => transferring dockerfile: 150B
 => [internal] load .dockerignore
 => => transferring context: 2B
 => [internal] load metadata for docker.io/library/python:latest
 => [internal] load build context
 => => transferring context: 31B
 => [1/4] FROM docker.io/library/python
 => 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:ad9b3a40eb1a5bb940061b191b078db75531847c9c49ee4f0cbd951a4f58af6e
 => => naming to docker.io/library/task3

What's Next?
  View summary of image vulnerabilities and recommendations → docker scout quickview
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo> docker run --network=my-bridge-network task3
Inserted into the MongoDB database!
Fecthed from MongoDB:  {'_id': ObjectId('65c21a653afaafd3e3f7e8ec'), 'Name:': 'SINCHANA S', 'SRN': 'PES1UG21CS596'}
(base) PS C:\Users\SINCHANA S\OneDrive\Desktop\SIXTH SEM\CC\PES1UG21CS596\TASK3\task3-pymongo>
```

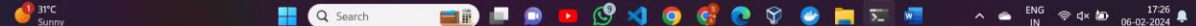4a.jpg: Screenshot of C Program successfully run inside the container.

4b.jpg: Screenshot of the image pushed to Dockerhub.

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