

Lab 5 Task Part 1

Name: Muhammad Sherjeel Akhtar

Roll No: 20p-0101

Subject: Operating Systems Lab

Submitted To Respected Sir: Muhammad Ahsan

Section: BCS-4A

####786####

Images:

We are going to use two images in our case:

Mongo-Express

Mongo

Docker Ps:

Docker ps to see the running containers.

Docker Images:

Docker images to see the docker images.

Running The Containers:

First of all we are going to run the Mongo-Express and Mongo Containers.

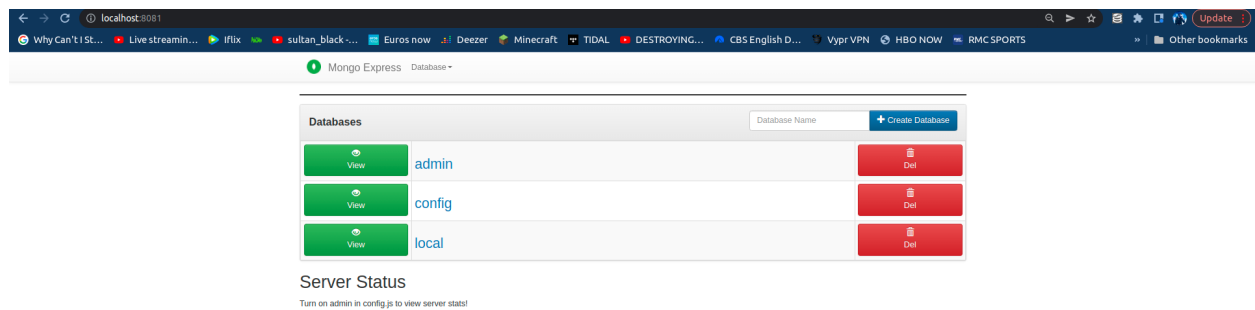
Use the command:

```
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ docker-compose -f mongo-docker-compose.yaml up
```

Running Containers:

```
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
70c53be12000   mongo-express  "tini -- /docker-ent..." 6 minutes ago  Up 5 minutes  0.0.0.0:8081->8081/tcp, :::8081->8081/tcp  nodeapp_mongo-express_1
1bee897455ef   mongo         "docker-entrypoint.s..." 6 minutes ago  Up 6 minutes  0.0.0.0:27017->27017/tcp, :::27017->27017/tcp  nodeapp_mongodb_1
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$
```

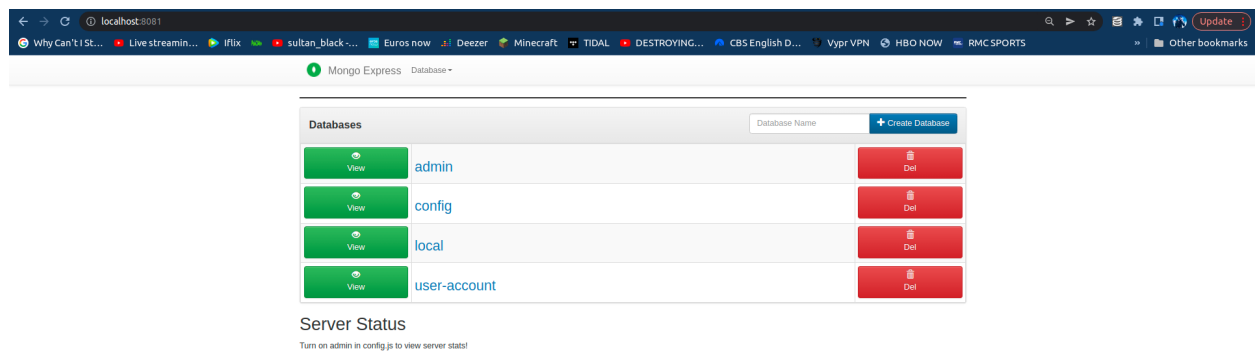
Visually:



User-Account Database:

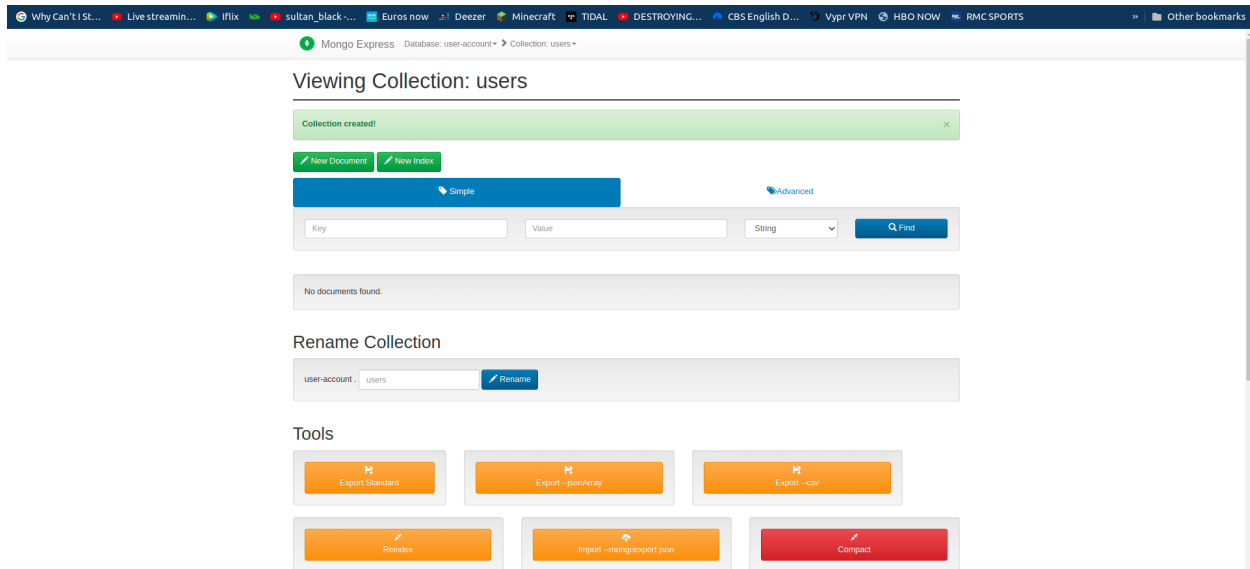
First of all create a user-account database.

Visually:



Collection Creation:

Now create a collection with the name **users** as mentioned below:



Building Image:

Now we are going to build **Image** of our app.

Visually:

```
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
70c53be12000   mongo-express  "tini -- /docker-ent..." 6 minutes ago  Up 5 minutes  0.0.0.0:8081->8081/tcp, :::8081->8081/tcp  nodeapp_mongo-express_1
1bee897455ef   mongo         "docker-entrpoint.s..." 6 minutes ago  Up 6 minutes  0.0.0.0:27017->27017/tcp, :::27017->27017/tcp  nodeapp_mongodb_1

spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ ls
app  app-compose.yaml  docker-commands.md  Dockerfile  mongo-docker-compose.yaml
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ sudo docker build -t myapp .
[sudo] password for spoofy:
Sending build context to Docker daemon  6.526MB
Step 1/7 : FROM node:13-alpine
13-alpine: Pulling from library/node
cbdbe7a5bc2a: Pull complete
780514bed1ad: Pull complete
5d74fb112a7d: Extracting [=====]  2.236MB/2.236MB
4b9536424fa1: Download complete
```

```
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ sudo docker build -t myapp .
[sudo] password for spoofy:
Sending build context to Docker daemon 6.526MB
Step 1/7 : FROM node:13-alpine
13-alpine: Pulling from library/node
cbdbe7a5bc2a: Pull complete
780514bed1ad: Pull complete
5d74fb112a7d: Pull complete
4b9536424fa1: Pull complete
Digest: sha256:527c70f74817f6f6b5853588c28de33459178ab72421f1fb7b63a281ab670258
Status: Downloaded newer image for node:13-alpine
--> 8216bf4583a5
Step 2/7 : ENV MONGO_DB_USERNAME=admin MONGO_DB_PWD=password
--> Running in 5bd5d204a471
Removing intermediate container 5bd5d204a471
--> ff324b41ca13
Step 3/7 : RUN mkdir -p /home/app
--> Running in 40a2fd6354b0
Removing intermediate container 40a2fd6354b0
--> 4cafff6eb112
Step 4/7 : COPY ./app /home/app
--> df4c6767e1dd
Step 5/7 : WORKDIR /home/app
--> Running in b34994b0cbb5
Removing intermediate container b34994b0cbb5
--> 40338af40364
Step 6/7 : RUN npm install
--> Running in 31e6f98775e9
npm WARN developing-with-docker@1.0.0 No description
npm WARN developing-with-docker@1.0.0 No repository field.

audited 91 packages in 2.455s

7 packages are looking for funding
  run `npm fund` for details

found 1 high severity vulnerability
  run `npm audit fix` to fix them, or `npm audit` for details
Removing intermediate container 31e6f98775e9
--> 4f6db8d045f8
Step 7/7 : CMD ["node", "server.js"]
--> Running in 6e95b9fba722
Removing intermediate container 6e95b9fba722
--> ff4da071ce6f
Successfully built ff4da071ce6f
Successfully tagged myapp:latest
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$
```

Composing The Image:

Now we are going to compose the image.

```
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ sudo apt install docker-compose
Reading package lists... Done
Building dependency tree
Reading state information... Done
docker-compose is already the newest version (1.25.0-1).
0 upgraded, 0 newly installed, 0 to remove and 164 not upgraded.
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ sudo docker-compose -f app-compose.yaml up
WARNING: Found orphan containers (nodeapp_mongodb_1, nodeapp_mongo-express_1) for this project. If you removed or renamed this service in your compose file, you can run this command with the --remove-orphans flag to clean it up.
Creating nodeapp_myapp_1 ... done
Attaching to nodeapp_myapp_1
nodeapp_1 | App is ready and running on port 3000!
```

```
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ sudo docker-compose -f app-compose.yaml up
WARNING: Found orphan containers (nodeapp_mongodb_1, nodeapp_mongo-express_1) for this project. If you removed or renamed this service in your compose file, you can run this command with the --remove-orphans flag to clean it up.
Creating nodeapp_myapp_1 ... done
Attaching to nodeapp_myapp_1
nodeapp_1 | App is ready and running on port 3000!
myapp_1 | Rendering html template...
myapp_1 | Getting profile picture...
```

A Commonly Occurring Occur After Composing:

```

spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$ sudo docker-compose -f app-compose.yaml up
WARNING: Found orphan containers (nodeapp_mongodb_1, nodeapp_mongo-express_1) for this project. If you removed or renamed this service in your compose file, you can run this command with the --remove-orphans flag to clean it up.
Creating nodeapp_myapp_1 ... done
Attaching to nodeapp_myapp_1
myapp_1 | App is ready and running on port 3000!
myapp_1 | Rendering html template...
myapp_1 | Getting profile picture...
myapp_1 | /home/app/server.js:67
myapp_1 |     if (err) throw err;
myapp_1 |     ^
myapp_1 |
myapp_1 | MongoTimeoutError: Server selection timed out after 30000 ms
myapp_1 |     at Timeout.<anonymous> (/home/app/node_modules/mongodb/lib/core/sdam/topology.js:878:9)
myapp_1 |     at listOnTimeout (internal/timers.js:549:17)
myapp_1 |     at processTimers (internal/timers.js:492:7) {
myapp_1 |   reason: Error: connect ECONNREFUSED 127.0.0.1:27017
myapp_1 |     at TCPConnectWrap.afterConnect [as oncomplete] (net.js:1141:16) {
myapp_1 |     name: 'MongoNetworkError',
myapp_1 |     errorLabels: [ 'TransientTransactionError' ],
myapp_1 |     [Symbol(mongoErrorContextSymbol)]: {}
myapp_1 |   },
myapp_1 |   [Symbol(mongoErrorContextSymbol)]: {}
myapp_1 | }
nodeapp_myapp_1 exited with code 1
spoofy@spoofy-Precision-M4600:~/Downloads/NodeApp(Task-1)/NodeApp$

```



Nothing Is DISPLAYING!!!!