Operating Systems Lab

ASSIGNMENT # 04

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Task 1 : Docker compose

Step 1: Docker-compose bulid

```
PS C:\Users\PC\Downloads\New folder> ^C
PS C:\Users\PC\Downloads\New folder> docker-compose build
[+] Building 16.3s (4/11)                                                              docker:default
 => [web internal] load .dockerignore                                                            0.1s
 => => transferring context: 2B                                                                  0.0s
 => [web internal] load build definition from Dockerfile                                         0.1s
 => => transferring dockerfile: 341B                                                             0.0s
 => [web internal] load metadata for docker.io/library/python:3.7-alpine                         8.4s
 => [web internal] load build context                                                            0.0s
 => => transferring context: 1.25kB                                                              0.0s
 => [web 1/7] FROM docker.io/library/python:3.7-alpine@sha256:f3d31c8677d03f0b3c724446077f229a6ce9d3ac430f5c08c   7.7s
 => => resolve docker.io/library/python:3.7-alpine@sha256:f3d31c8677d03f0b3c724446077f229a6ce9d3ac430f5c08cd7df   0.0s
 => => sha256:96526aa774ef0126ad0fe9e9a95764c5fc37f409ab9e97021e7b4775d82bf6fa 3.40MB / 3.40MB   3.8s
 => => sha256:9875af95546db78168a6761b7fa205ed1cd0c153cd89356c1512e551c12b2d5c 622.29kB / 622.29kB   4.1s
 => => sha256:4819c95424fc4a94767c9329b02238ebcce0bc682384cb671379bc1fb8a12b55 10.94MB / 10.94MB   6.8s
 => => sha256:f3d31c8677d03f0b3c724446077f229a6ce9d3ac430f5c08cd7dff00292048c3 1.65kB / 1.65kB   0.0s
 => => sha256:e6da3ee9bb64dd12b98fa609487f112fe1e365522e6e8345309db15c22a80a51 1.37kB / 1.37kB   0.0s
 => => sha256:1bac8ae77e4af0b868b62a75115616a20e025e0451eeed05d94a4cfc4523e58a 6.87kB / 6.87kB   0.0s
 => => extracting sha256:96526aa774ef0126ad0fe9e9a95764c5fc37f409ab9e97021e7b4775d82bf6fa         0.3s
 => => sha256:148762f75a1f92cc9857e9c488bf95d5aac61e9905ec47a7408025b2dd5c3b7a 240B / 240B       4.6s
 => => sha256:ea1518237b3753b3fe40ee773d77651704178d9baa72ae5012e13a992cfa6c63 0B / 2.85MB       7.7s
 => => extracting sha256:9875af95546db78168a6761b7fa205ed1cd0c153cd89356c1512e551c12b2d5c         0.6s
 => => extracting sha256:4819c95424fc4a94767c9329b02238ebcce0bc682384cb671379bc1fb8a12b55         0.9s
```

Step 2: Docker-compose up -d

```
PS C:\Users\PC\Downloads\New folder> docker-compose up -d
[+] Running 8/8
 ✓ redis 7 layers [▉▉▉▉▉▉▉▉]      0B/0B      Pulled
   ✓ 96526aa774ef Already exists
   ✓ 6adfacd3b74c Pull complete
   ✓ 8f2d8ff49f68 Pull complete
   ✓ 473eef84775a Pull complete
   ✓ a8fc03039a58 Pull complete
   ✓ 4f4fb700ef54 Pull complete
   ✓ 3c27b2421cc2 Pull complete
[+] Building 0.0s (0/0)
[+] Running 3/3
 ✓ Network newfolder_default    Created
 ✓ Container newfolder-web-1    Started
 ✓ Container newfolder-redis-1  Started
PS C:\Users\PC\Downloads\New folder>
```

Step 3 : docker ps

```
PS C:\Users\PC\Downloads\New folder> docker ps
CONTAINER ID    IMAGE          COMMAND              CREATED           STATUS             PORTS
        NAMES
5bfd37c84e4b    redis:alpine   "docker-entrypoint.s…"   About a minute ago   Up About a minute   6379/tcp
        newfolder-redis-1
bd81d9cbe881    newfolder-web  "flask run"              About a minute ago   Up About a minute   0.0.0.0:6000->5000/tcp    newfolder-web-1
39daf9e75054    mongo-express  "/sbin/tini -- /dock…"   About an hour ago    Up About an hour    0.0.0.0:8081->8081/tcp    labassissment1-mongo-express-1
a60423f7c969    mongo          "docker-entrypoint.s…"   About an hour ago    Up About an hour    0.0.0.0:27017->27017/tcp  labassissment1-mongodb-1
PS C:\Users\PC\Downloads\New folder>
```

Step 4 : docker logs -f newfolder-web-1

```
PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1> docker logs -f newfolder-web-1
 * Serving Flask app 'app.py'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://172.20.0.3:5000
Press CTRL+C to quit
```

Step 5 :

```
PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1> docker logs -f newfolder-web-1
 * Serving Flask app 'app.py'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://172.20.0.3:5000
Press CTRL+C to quit
PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1> docker logs -f newfolder-redis-1
1:C 12 Oct 2023 14:51:40.538 # WARNING Memory overcommit must be enabled! Without it, a background save or replication may fail under low memory condition.
Being disabled, it can also cause failures without low memory condition, see https://github.com/jemalloc/jemalloc/issues/1328. To fix this issue add 'vm.ove
rcommit_memory = 1' to /etc/sysctl.conf and then reboot or run the command 'sysctl vm.overcommit_memory=1' for this to take effect.
1:C 12 Oct 2023 14:51:40.539 * oO0OoO0OoO0Oo Redis is starting oO0OoO0OoO0Oo
1:C 12 Oct 2023 14:51:40.539 * Redis version=7.2.1, bits=64, commit=00000000, modified=0, pid=1, just started
1:C 12 Oct 2023 14:51:40.539 # Warning: no config file specified, using the default config. In order to specify a config file use redis-server /path/to/redi
s.conf
1:M 12 Oct 2023 14:51:40.539 * monotonic clock: POSIX clock_gettime
1:M 12 Oct 2023 14:51:40.540 * Running mode=standalone, port=6379.
1:M 12 Oct 2023 14:51:40.541 * Server initialized
1:M 12 Oct 2023 14:51:40.542 * Ready to accept connections tcp
```

Step 6 :   docker logs -f labassissment1-mongo-express-1

PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1> docker logs -f labassissment1-mongo-express-1
No custom config.js found, loading config.default.js
Welcome to mongo-express
----

Mongo Express server listening at http://0.0.0.0:8081
Server is open to allow connections from anyone (0.0.0.0)
basicAuth credentials are "admin:pass", it is recommended you change this in your config.js!
No custom config.js found, loading config.default.js
Welcome to mongo-express

Mongo Express server listening at http://0.0.0.0:8081
Server is open to allow connections from anyone (0.0.0.0)
basicAuth credentials are "admin:pass", it is recommended you change this in your config.js!

Step 7: docker logs -f labassissment1-mongodb-1

PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1> docker logs -f labassissment1-mongodb-1
about to fork child process, waiting until server is ready for connections.
forked process: 28

{"t":{"$date":"2023-10-12T13:52:02.831+00:00"},"s":"I", "c":"CONTROL", "id":20698,   "ctx":"main","msg":"***** SERVER RESTARTED *****"}
{"t":{"$date":"2023-10-12T13:52:02.841+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":{"minWireVersi
on":6,"maxWireVersion":21},"isInternalClient":true}}}
{"t":{"$date":"2023-10-12T13:52:02.841+00:00"},"s":"I", "c":"CONTROL", "id":23285,   "ctx":"main","msg":"Automatically disabling TLS 1.0, to force-enable
TLS 1.0 specify --sslDisabledProtocols 'none'"}
{"t":{"$date":"2023-10-12T13:52:02.858+00:00"},"s":"I", "c":"NETWORK", "id":4648601,"ctx":"main","msg":"Implicit TCP FastOpen unavailable. If TCP FastOpe
n is required, set tcpFastOpenServer, tcpFastOpenClient, and tcpFastOpenQueueSize."}
{"t":{"$date":"2023-10-12T13:52:02.862+00:00"},"s":"I", "c":"REPL",   "id":5123008,"ctx":"main","msg":"Successfully registered PrimaryOnlyService","attr
":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}
{"t":{"$date":"2023-10-12T13:52:02.863+00:00"},"s":"I", "c":"REPL",   "id":5123008,"ctx":"main","msg":"Successfully registered PrimaryOnlyService","attr
":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}
{"t":{"$date":"2023-10-12T13:52:02.863+00:00"},"s":"I", "c":"CONTROL", "id":5945603,"ctx":"main","msg":"Multi threading initialized"}
{"t":{"$date":"2023-10-12T13:52:02.865+00:00"},"s":"I", "c":"TENANT_M", "id":7091600,"ctx":"main","msg":"Starting TenantMigrationAccessBlockerRegistry"}
{"t":{"$date":"2023-10-12T13:52:02.868+00:00"},"s":"I", "c":"CONTROL", "id":4615611,"ctx":"initandlisten","msg":"MongoDB starting","attr":{"pid":28,"port
":27017,"dbPath":"/data/db","architecture":"64-bit","host":"a60423f7c969"}}
{"t":{"$date":"2023-10-12T13:52:02.868+00:00"},"s":"I", "c":"CONTROL", "id":23403,   "ctx":"initandlisten","msg":"Build Info","attr":{"buildInfo":{"versio
n":"7.0.2","gitVersion":"02b3c655e1302209ef046da6ba3ef6749dd0b62a","openSSLVersion":"OpenSSL 3.0.2 15 Mar 2022","modules":[],"allocator":"tcmalloc","environ
ment":{"distmod":"ubuntu2204","distarch":"x86_64","target_arch":"x86_64"}}}}
{"t":{"$date":"2023-10-12T13:52:02.868+00:00"},"s":"I", "c":"CONTROL", "id":51765,   "ctx":"initandlisten","msg":"Operating System","attr":{"os":{"name":"
Ubuntu","version":"22.04"}}}

Step 8: localhost:8081
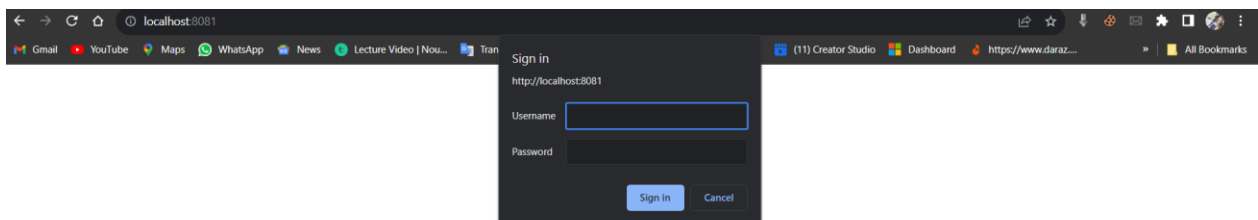
Step 9: : localhost:8081

Mongo Express   Database ▾

Mongo Express

Databases

		Database Name	**+ Create Database**
👁 View	admin		🗑 Del
👁 View	config		🗑 Del
👁 View	local		🗑 Del

Server Status

Hostname	a60423f7c969	MongoDB Version	7.0.2
Uptime	5169 seconds	Node Version	18.18.1
Server Time	Thu, 12 Oct 2023 16:43:50 GMT	V8 Version	10.2.154.26-node.26
Current Connections	3	Available Connections	838857
Active Clients	0	Queued Operations	0

Step 10:
 I am build the file first

```
PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1\PythonApp2> docker-compose build
[+] Building 0.0s (0/0)
```

Step 11:
        After built the all app but some time they stop and not going more

```
PS C:\Users\PC\Desktop\Semester7\OS lab\lab assissment 1\PythonApp2> docker-compose up                                                    docker:default
[+] Building 0.0s (0/0)
[+] Running 2/0
 ✓ Container labassissment1-mongo-express-1   Created                                                                                          0.0s
 ✓ Container labassissment1-mongodb-1         Created                                                                                          0.0s
Attaching to labassissment1-mongo-express-1, labassissment1-mongodb-1
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.793+00:00"},"s":"I",  "c":"CONTROL",  "id":23285,    "ctx":"main","msg":"Automatically disabling
TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.794+00:00"},"s":"I",  "c":"NETWORK",  "id":4915701,"ctx":"main","msg":"Initialized wire specifi
cation","attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":21},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":21},"outgoir
":{"minWireVersion":6,"maxWireVersion":21},"isInternalClient":true}}}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.797+00:00"},"s":"I",  "c":"NETWORK",  "id":4648601,"ctx":"main","msg":"Implicit TCP FastOpen
available. If TCP FastOpen is required, set tcpFastOpenServer, tcpFastOpenClient, and tcpFastOpenQueueSize."}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.811+00:00"},"s":"I",  "c":"REPL",     "id":5123008,"ctx":"main","msg":"Successfully registered
PrimaryOnlyService","attr":{"service":"TenantMigrationDonorService","namespace":"config.tenantMigrationDonors"}}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.811+00:00"},"s":"I",  "c":"REPL",     "id":5123008,"ctx":"main","msg":"Successfully registered
PrimaryOnlyService","attr":{"service":"TenantMigrationRecipientService","namespace":"config.tenantMigrationRecipients"}}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.812+00:00"},"s":"I",  "c":"CONTROL",  "id":5945603,"ctx":"main","msg":"Multi threading initial
zed"}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.813+00:00"},"s":"I",  "c":"TENANT_M",  "id":7091600,"ctx":"main","msg":"Starting TenantMigrati
AccessBlockerRegistry"}
labassissment1-mongodb-1        | {"t":{"$date":"2023-10-12T18:07:29.815+00:00"},"s":"I",  "c":"CONTROL",  "id":4615611,"ctx":"initandlisten","msg":"MongoDB starti
```

sult":0,"metrics":{"conversation_duration":{"micros":31553,"summary":{"0":{"step":1,"step_total":2,"duration_micros":662},"1":{"step":2,"step_total":2
os":543}}}},"extraInfo":{}}}
labassissment1-mongodb-1 | {"t":{"$date":"2023-10-12T18:07:32.267+00:00"},"s":"I", "c":"NETWORK", "id":6788700, "ctx":"conn2","msg":"Received
on ingress connection since session start or auth handshake","attr":{"elapsedMillis":6}}
labassissment1-mongo-express-1 | Mongo Express server listening at http://0.0.0.0:8081
labassissment1-mongo-express-1 | Server is open to allow connections from anyone (0.0.0.0)
labassissment1-mongo-express-1 | basicAuth credentials are "admin:pass", it is recommended you change this in your config.js!
labassissment1-mongodb-1 | {"t":{"$date":"2023-10-12T18:07:42.661+00:00"},"s":"I", "c":"NETWORK", "id":22943,   "ctx":"listener","msg":"Conne
,"attr":{"remote":"172.18.0.3:52560","uuid":{"uuid":{"$uuid":"8e84d6aa-39f9-48db-b241-10cacfcc5615"}},"connectionId":3,"connectionCount":3}}
labassissment1-mongodb-1 | {"t":{"$date":"2023-10-12T18:07:42.664+00:00"},"s":"I", "c":"NETWORK", "id":51800,   "ctx":"conn3","msg":"client m
:{"remote":"172.18.0.3:52560","client":"conn3","doc":{"driver":{"name":"nodejs","version":"4.17.1"},"platform":"Node.js v18.18.1, LE","os":{"name":"li
ure":"x64","version":"5.15.90.1-microsoft-standard-WSL2","type":"Linux"}}}}

Step 12:

After the app is build they show here