Docker_Task 3

1.)

```
84f61c444f60   936865ca8b56              /docker-entrypoint.…    10 days ago    Exited (0) 10 days ago
saady@Linux:~$ docker network create --driver=bridge --subnet=192.168.0.0/24 net1
4d1710d7fe5c0996cae02227451a0db4cd43057049e31d46e9f90997f9684b7e
saady@Linux:~$ docker network connect net1 a7f9971b5409
saady@Linux:~$ docker network connect net1 c2ddabf2f8b5
saady@Linux:~$ docker network create --driver=bridge --subnet=10.5.0.0/24 net2
7846e2c517132fa46fabf05f7f7a3234f02bfc546555faf36e789e568cbbf913
saady@Linux:~$ docker network connect net2 e92305c82769
```

```
saady@Linux:~$ docker network ls
NETWORK ID      NAME       DRIVER     SCOPE
4b850b8b0868    bridge     bridge     local
195409e541af    host       host       local
4d1710d7fe5c    net1       bridge     local
7846e2c51713    net2       bridge     local
de9cb5690480    none       null       local
saady@Linux:~$ sudo docker exec -it e92305c82769 ping c2ddabf2f8b5
```

```
saady@Linux:~$ docker network inspect net1
[
    {
        "Name": "net1",
        "Id": "4d1710d7fe5c0996cae02227451a0db4cd43057049e31d46e9f90997f9684b7e",
        "Created": "2023-05-29T12:43:17.959256403+03:00",
        "Scope": "local",
        "Driver": "bridge",
        "EnableIPv6": false,
        "IPAM": {
            "Driver": "default",
            "Options": {},
            "Config": [
                {
                    "Subnet": "192.168.0.0/24",
                    "Gateway": "192.168.0.1"
                }
            ]
        },
        "Internal": false,
        "Attachable": false,
        "Ingress": false,
        "ConfigFrom": {
            "Network": ""
        },
        "ConfigOnly": false,
        "Containers": {
            "c2ddabf2f8b5d035fa4f9faadc22bc36f1eddef7b25b1ec1485cf56d9e59eb4a": {
                "Name": "nginx1",
                "EndpointID": "dc5b5bcc3d967ffa09277d471c8c411c843eff6e2ddb0ffc89a20ae2a6152c20",
                "MacAddress": "02:42:c0:a8:00:02",
                "IPv4Address": "192.168.0.2/24",
                "IPv6Address": ""
            },
            "d4e64c306a7e73b41ec67906c7872107a7122dc72a4091d062672ff29fa8968e": {
                "Name": "nginx2",
                "EndpointID": "47def97195997b6ef366ade756bdee98c8d567ef87c974ea1556d73f451e36d5",
                "MacAddress": "02:42:c0:a8:00:03",
                "IPv4Address": "192.168.0.3/24",
                "IPv6Address": ""
            }
        },
        "Options": {},
        "Labels": {}
    }
]
saady@Linux:~$
```

```
saady@Linux:~$ docker network inspect net2
[
    {
        "Name": "net2",
        "Id": "7846e2c517132fa46fabf05f7f7a3234f02bfc546555faf36e789e568cbbf913",
        "Created": "2023-05-29T12:46:10.315425743+03:00",
        "Scope": "local",
        "Driver": "bridge",
        "EnableIPv6": false,
        "IPAM": {
            "Driver": "default",
            "Options": {},
            "Config": [
                {
                    "Subnet": "10.5.0.0/24",
                    "Gateway": "10.5.0.1"
                }
            ]
        },
        "Internal": false,
        "Attachable": false,
        "Ingress": false,
        "ConfigFrom": {
            "Network": ""
        },
        "ConfigOnly": false,
        "Containers": {
            "e92305c827696aed70f91bab60d5d7e548f638b70168a6b2341da38b5c6e52df": {
                "Name": "redis1",
                "EndpointID": "eb1737e84aba877d3b52adaf2ca705704d455733228668a11cce0c7c318f0e96",
                "MacAddress": "02:42:0a:05:00:02",
                "IPv4Address": "10.5.0.2/24",
                "IPv6Address": ""
            }
        },
        "Options": {},
        "Labels": {}
    }
]
saady@Linux:~$
```

```
e92305c82769     redis        docker-entrypoint.s…   About an hour ago   Up 11 minutes       6379/tcp    redis1
saady@Linux:~$ sudo docker exec -it c2ddabf2f8b5 bash
root@c2ddabf2f8b5:/# apt-get update && apt-get install -y iputils-ping
Get:1 http://deb.debian.org/debian bullseye InRelease [116 kB]
Get:2 http://deb.debian.org/debian-security bullseye-security InRelease [48.4 kB]
Get:3 http://deb.debian.org/debian bullseye-updates InRelease [44.1 kB]
Get:4 http://deb.debian.org/debian bullseye/main amd64 Packages [8183 kB]
Get:5 http://deb.debian.org/debian-security bullseye-security/main amd64 Packages [245 kB]
Get:6 http://deb.debian.org/debian bullseye-updates/main amd64 Packages [14.8 kB]
```

```
saady@Linux:~$ docker run -d --name nginx2 nginx:alpine
d4e64c306a7e73b41ec67906c7872107a7122dc72a4091d062672ff29fa8968e
saady@Linux:~$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS      NAMES
d4e64c306a7e   nginx:alpine   "/docker-entrypoint.…"   11 seconds ago   Up 9 seconds    80/tcp     nginx2
c2ddabf2f8b5   nginx          "/docker-entrypoint.…"   About an hour ago   Up 18 minutes   80/tcp     nginx1
e92305c82769   redis          "docker-entrypoint.s…"   About an hour ago   Up 18 minutes   6379/tcp   redis1
saady@Linux:~$ docker network connect net1 d4e64c306a7e
saady@Linux:~$ sudo docker exec -it d4e64c306a7e ping c2ddabf2f8b5
PING c2ddabf2f8b5 (192.168.0.2): 56 data bytes
64 bytes from 192.168.0.2: seq=0 ttl=64 time=0.140 ms
64 bytes from 192.168.0.2: seq=1 ttl=64 time=0.153 ms
64 bytes from 192.168.0.2: seq=2 ttl=64 time=0.342 ms
64 bytes from 192.168.0.2: seq=3 ttl=64 time=0.222 ms
64 bytes from 192.168.0.2: seq=4 ttl=64 time=0.140 ms
64 bytes from 192.168.0.2: seq=5 ttl=64 time=0.223 ms
64 bytes from 192.168.0.2: seq=6 ttl=64 time=0.209 ms
64 bytes from 192.168.0.2: seq=7 ttl=64 time=0.140 ms
64 bytes from 192.168.0.2: seq=8 ttl=64 time=0.187 ms
64 bytes from 192.168.0.2: seq=9 ttl=64 time=0.265 ms
64 bytes from 192.168.0.2: seq=10 ttl=64 time=0.428 ms
64 bytes from 192.168.0.2: seq=11 ttl=64 time=0.216 ms
64 bytes from 192.168.0.2: seq=12 ttl=64 time=0.268 ms
64 bytes from 192.168.0.2: seq=13 ttl=64 time=0.448 ms
64 bytes from 192.168.0.2: seq=14 ttl=64 time=0.208 ms
64 bytes from 192.168.0.2: seq=15 ttl=64 time=0.216 ms
^C
--- c2ddabf2f8b5 ping statistics ---
16 packets transmitted, 16 packets received, 0% packet loss
round-trip min/avg/max = 0.140/0.237/0.448 ms
saady@Linux:~$ sudo docker exec -it e92305c82769 ping c2ddabf2f8b5
ping: c2ddabf2f8b5: Name or service not known
saady@Linux:~$
```

2.)
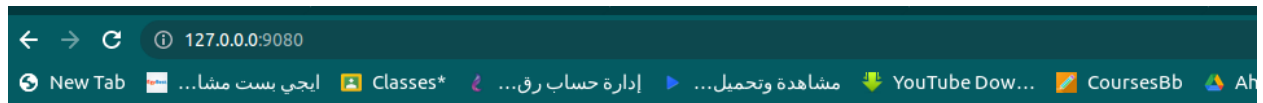
Problem 2

```
saady@Linux: ~/Documents/Docker files/Lab 3

saady@Linux:~/Documents/Docker files/Lab 3$ docker build -t httpd-image:v1 .
[+] Building 19.7s (9/9) FINISHED
 => [internal] load build definition from Dockerfile              0.1s
 => => transferring dockerfile: 222B                             0.0s
 => [internal] load .dockerignore                                0.0s
 => => transferring context: 2B                                 0.0s
 => [internal] load metadata for docker.io/library/httpd:latest  2.8s
 => [1/4] FROM docker.io/library/httpd:latest@sha256:1bb3f7669a85713906e  14.9s
 => => resolve docker.io/library/httpd:latest@sha256:1bb3f7669a85713906e6  0.1s
 => => sha256:1bb3f7669a85713906e695599d29c58ab40d4e64099 1.86kB / 1.86kB  0.0s
 => => sha256:d1b31555feeabe3afd7ba301ca285429176a76aff16 1.37kB / 1.37kB  0.0s
 => => sha256:d1676199e60591c70e38ddfde2c6c3fc51452fafeee 9.29kB / 9.29kB  0.0s
 => => sha256:e3fe37d0c2ad420bd2a30bb0ac9f84b92eada7c790a 1.72MB / 1.72MB  2.3s
 => => sha256:52a1e37affe549886bc5f97b08a3fe1b19d41da3 23.97MB / 23.97MB  13.9s
 => => sha256:abaf8619eb1c96b5bda436caa32f832076cd92d6277e0fa 178B / 178B  1.2s
 => => extracting sha256:abaf8619eb1c96b5bda436caa32f832076cd92d6277e0fa8  0.0s
 => => sha256:49d8a68fd903c4c5786f34b8510d9cc221f6229ba9921f5 299B / 299B  1.8s
 => => extracting sha256:e3fe37d0c2ad420bd2a30bb0ac9f84b92eada7c790a914db  0.2s
 => => extracting sha256:52a1e37affe549886bc5f97b08a3fe1b19d41da3d3e3284e  0.6s
 => => extracting sha256:49d8a68fd903c4c5786f34b8510d9cc221f6229ba9921f52  0.0s
 => [internal] load build context                               0.0s
 => => transferring context: 1.06kB                            0.0s
 => [2/4] WORKDIR /usr/local/apache2                            1.3s
 => [3/4] COPY index.html ./htdocs/                             0.2s
 => [4/4] COPY httpd.conf ./conf/                               0.1s
 => exporting to image                                         0.2s
 => => exporting layers                                        0.1s
 => => writing image sha256:17e80cfb26481ca5ff32cc5564aeef5d25ec58a9909d1  0.0s
 => => naming to docker.io/library/httpd-image:v1              0.1s
saady@Linux:~/Documents/Docker files/Lab 3$ docker run -p 9080:9999 httpd-image:v1
docker
```

3.)

Hello World

```
saady@Linux: ~/Documents/Docker files/Docker-Lab 3/Probl...          Q  ≡  ─  □  ✕

saady@Linux:~/Documents/Docker files/Docker-Lab 3/Problem 3$ docker compose up
[+] Running 1/1
 ✔ database Pulled                                                            5.8s
[+] Building 231.2s (10/10) FINISHED
 => [app internal] load build definition from Dockerfile                      0.6s
 => => transferring dockerfile: 153B                                          0.1s
 => [app internal] load .dockerignore                                         0.4s
 => => transferring context: 2B                                               0.0s
 => [app internal] load metadata for docker.io/library/node:16               4.4s
 => [app 1/5] FROM docker.io/library/node:16@sha256:2ed6bba040f90005db9     207.4s
 => => resolve docker.io/library/node:16@sha256:2ed6bba040f90005db9785927     0.2s
 => => sha256:6f77ef701fd20c0929642e8cef71db851c717d0ca65 2.00kB / 2.00kB     0.0s
 => => sha256:4fbbe8e45ea152e06c94e848a410983bf047cbf78bf 7.24kB / 7.24kB     0.0s
 => => sha256:2ed6bba040f90005db9785927689c0d9a9442ca2cf9a59d 776B / 776B     0.0s
 => => sha256:c722db24a050621ee87ea07acd5d066d3d6a9473 50.45MB / 50.45MB     92.1s
 => => sha256:a3f8e4a0ed530ff1c74aea38be7ec6c725334c7c 17.58MB / 17.58MB     15.3s
 => => sha256:a739c67a76c3ff201aa979efc9c5deb081a75f5b 51.88MB / 51.88MB     90.6s
 => => sha256:51e0d706266f768c6ed028e990dbb063fc43f 191.89MB / 191.89MB     189.3s
 => => sha256:f38700a2e11ea7634ce0423f6925765a846b14a257 4.21kB / 4.21kB     91.7s
 => => sha256:b84b1175afa361fdad62b061091e2e2cc814e39 34.79MB / 34.79MB     127.0s
 => => sha256:f36686a8f4d2b7672e5237c070a8597edb8c810453 2.27MB / 2.27MB     97.9s
 => => extracting sha256:c722db24a050621ee87ea07acd5d066d3d6a94737c32012f     3.1s
 => => extracting sha256:a3f8e4a0ed530ff1c74aea38be7ec6c725334c7c3a551b41     1.5s
 => => extracting sha256:a739c67a76c3ff201aa979efc9c5deb081a75f5b98390ee1     3.8s
 => => sha256:0a7d41d447c6d0a929004550aa60d7d905e6dacd8570d7 450B / 450B     98.7s
 => => extracting sha256:51e0d706266f768c6ed028e990dbb063fc43f6028827fe0     12.2s
 => => extracting sha256:f38700a2e11ea7634ce0423f6925765a846b14a257049bde     0.0s
 => => extracting sha256:b84b1175afa361fdad62b061091e2e2cc814e392d6f6ff5f     2.9s
 => => extracting sha256:f36686a8f4d2b7672e5237c070a8597edb8c810453697e63     0.1s
 => => extracting sha256:0a7d41d447c6d0a929004550aa60d7d905e6dacd8570d7f0     0.0s
 => [app internal] load build context                                         0.2s
 => => transferring context: 1.22kB                                           0.0s
 => [app 2/5] WORKDIR /app                                                     2.4s
 => [app 3/5] COPY package.json ./                                            0.5s
 => [app 4/5] RUN npm install                                                12.2s
 => [app 5/5] COPY . .                                                         1.1s
 => [app] exporting to image                                                  0.9s
 => => exporting layers                                                       0.8s
 => => writing image sha256:1983e5ee3e903a7d6c9a456d2cb37d7ed2f962b9eaa96     0.0s
 => => naming to docker.io/library/problem3-app                               0.1s
[+] Running 5/5
 ✔ Network problem3_default         Created                                   0.8s
 ✔ Volume "problem3_database_data"  C...                                      0.1s
 ✔ Volume "problem3_app_data"       Create...                                 0.0s
 ✔ Container problem3-database-1     Cre...                                    2.3s
 ✔ Container problem3-app-1          Created                                  0.2s
Attaching to problem3-app-1, problem3-database-1
```

4.)