

Task 3

PART - 1

- Run an insecure docker registry on your server, follow the docs for this <https://docs.docker.com/registry/insecure/>

```
[root@khaled ~]# docker run -d -p 5000:5000 --name registry registry:2
02bb3f7253b9cbc8654c34c2bda72f8045f30f035f46b0f9b14f44bc13715381
[root@khaled ~]# client_loop: send disconnect: Connection reset by peer
```

- Create an image that installs and run nginx based on alpine:latest
Mkdir lab3

Vi dockerfile

```
# Use alpine:latest as base image
FROM alpine:latest

# Install nginx
RUN apk update && apk add nginx

# Create a directory for nginx files
RUN mkdir -p /run/nginx

# Copy the default nginx configuration file
COPY nginx.conf /etc/nginx/nginx.conf

# Expose port 80
EXPOSE 80

# Start nginx as a foreground process
CMD ["nginx", "-g", "daemon off;"]
```

Vi nginx.conf

```
events {
    worker_connections 1024;
}

http {
    index index.html index.htm;

    server {
        listen 80;
        root /usr/share/nginx/html;
        location /{

        }
    }
}
```

Docker build -t iti_lab3

```
[root@khaled lab3]# vi nginx.conf
[root@khaled lab3]# docker build -t nada-nginx-image .
[+] Building 14.8s (10/10) FINISHED                                docker:default
=> [internal] load build definition from dockerfile                0.1s
=> => transferring dockerfile: 449B                                0.0s
=> [internal] load .dockerignore                                  0.1s
=> => transferring context: 2B                                       0.0s
=> [internal] load metadata for docker.io/library/alpine:latest   2.0s
=> [auth] library/alpine:pull token for registry-1.docker.io      0.0s
=> CACHED [1/4] FROM docker.io/library/alpine:latest@sha256:51b67269f354137895d43f3b3d810bfacd3945438e94dc5ac55fdac340352f48 0.0s
=> [internal] load build context                                  0.1s
=> => transferring context: 396B                                       0.0s
=> [2/4] RUN apk update && apk add nginx                          10.4s
=> [3/4] RUN mkdir -p /run/nginx                                  1.2s
=> [4/4] COPY nginx.conf /etc/nginx/nginx.conf                    0.4s
=> exporting to image                                              0.3s
=> => exporting layers                                                0.3s
=> writing image sha256:b6ff63f889fddffa749bafd536dae54cd5cf94a2e906a63228380c0b498b6f5f 0.0s
=> naming to docker.io/library/nada-nginx-image                  0.0s
[root@khaled lab3]#
```

- Push this created image to the private registry that you created in step 1

```
[root@khaled lab3]# docker tag nada-nginx-image localhost:5000/nada-nginx-repo
[root@khaled lab3]# docker login localhost:5000
Username: Nk613
Password:
Error: Password Required
[root@khaled lab3]# docker login localhost:5000
Username: nk613
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
[root@khaled lab3]# docker push localhost:5000/my-nginx-repo
Using default tag: latest
The push refers to repository [localhost:5000/my-nginx-repo]
An image does not exist locally with the tag: localhost:5000/my-nginx-repo
[root@khaled lab3]# docker push localhost:5000/nada-nginx-repo
Using default tag: latest
The push refers to repository [localhost:5000/nada-nginx-repo]
2e9de708e082: Pushed
88ed6c1d8aa2: Pushed
d6fd5d8402f5: Pushed
5af4f8f59b76: Pushed
latest: digest: sha256:1c36d326ea18b6fc38c898e24bdaec7005ebf3656efab463aa98a574d0fbc27c size: 1152
```

```
address already in use.
[root@khaled lab3]# docker pull localhost:5000/nada-nginx-repo
Using default tag: latest
latest: Pulling from nada-nginx-repo
Digest: sha256:1c36d326ea18b6fc38c898e24bdaec7005ebf3656efab463aa98a574d0fbc27c
Status: Image is up to date for localhost:5000/nada-nginx-repo:latest
localhost:5000/nada-nginx-repo:latest
[root@khaled lab3]#
```

PART - 2

- Create a docker compose file that runs wordpress image based on wordpress:latest image and mysql:5.7 database and mount data directory of mysql to /var/lib/mysql on host
- The docker-compose file should have the two services and expose wordpress on port 8080 on the host

Install docker compose

sudo curl -L

"https://github.com/docker/compose/releases/latest/download/docker-compose-\$(uname -s)-\$(uname -m)" -o /usr/local/bin/docker-compose

```
[root@khaled lab3-p2]# mv $(curl -L https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m)) -o /usr/local/bin/docker-compose
[root@khaled lab3-p2]# vi docker-compose.yml
bash: docker-compose: command not found
[root@khaled lab3-p2]# sudo curl -L https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m) -o /usr/local/bin/docker-compose
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
  0     0    0     0    0     0      0      0      0      0  100 56.9M  100 56.9M    0     0  611k    0  0:01:35  0:01:35 --:--:-- 641k
[root@khaled lab3-p2]# sudo chmod +x /usr/local/bin/docker-compose
[root@khaled lab3-p2]# docker-compose --version
Docker Compose version v2.23.3
[root@khaled lab3-p2]#
```

```
[root@khaled lab3-p2]# docker-compose up -d
[*] Running 22/22
✓ wordpress 21 layers [=====] 0B/0B Pulled
✓ af107e978371 Already exists 585.4s
✓ 648084ad1d2 Pull complete 0.0s
✓ 95f5176eece8b Pull complete 1.3s
✓ 0e8e7ec824ca Pull complete 514.5s
✓ 673e01769ec9 Pull complete 1.3s
✓ 74f0c50b3097 Pull complete 207.3s
✓ 1a19a72eb529 Pull complete 4.6s
✓ 214daec02f86 Pull complete 13.0s
✓ 9bb2d2652f4 Pull complete 102.1s
✓ b80d85df9f0 Pull complete 105.3s
✓ 991e05662ac4 Pull complete 145.3s
✓ 1106a3b879f1 Pull complete 146.7s
✓ 94fbc71d4a9 Pull complete 148.5s
✓ 6910769091bd Pull complete 150.8s
✓ 2a135127941 Pull complete 276.8s
✓ 086bd105f188 Pull complete 363.9s
✓ 0ad2b9a7aaf9 Pull complete 278.5s
✓ e95473a7f69c Pull complete 281.8s
✓ b7d03c854f68 Pull complete 284.9s
✓ ad70c25cb0f6 Pull complete 392.2s
✓ dcace3206b6c Pull complete 366.6s
[*] Running 5/5
✓ Network lab3-p2_default Created 3.9s
✓ Volume "lab3-p2_mysql_data" Created 0.0s
✓ Volume "lab3-p2_wordpress_data" Created 0.1s
✓ Container lab3-p2-mysql-1 Started 7.3s
✓ Container lab3-p2-wordpress-1 Started 0.3s
[root@khaled lab3-p2]#
```

mobaxterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>



```
[root@khaled lab3-p2]# docker-compose up &
[1] 3644
[*] Running 2/0b3-p2]#
✓ Container lab3-p2-mysql-1 Running 0.0s
✓ Container lab3-p2-wordpress-1 Running 0.0s
Attaching to mysql-1, wordpress-1

[root@khaled lab3-p2]# docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
2ab7d6dea7a3   wordpress:latest "docker-entrypoint.s..." 26 minutes ago Up 25 minutes 0.0.0.0:8080->80/tcp, :::8080->80/tcp
ab3-p2-wordpress-1
6731580f2d5e   mysql:5.7     "docker-entrypoint.s..." 26 minutes ago Up 26 minutes 3306/tcp, 33060/tcp
ab3-p2-mysql-1
02bb3f7253b9   registry:2    "/entrypoint.sh /etc..." 3 hours ago   Up 3 hours    0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
registry
[root@khaled lab3-p2]#
```