DevOps Certification Training

Docker Assignment 1

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An organization XYZ Private Limited has recently transformed their IT application from Monolithic to

Microservice Architecture. Now they have been struggling with deployment in such a complex

infrastructure and inconsistency across the system. The organization has hired you to help them with

simplifying their deployment process by containerizing their applications.

You are requested to do following task :

1. Take the addressbook application.

2. Deploy that application on to tomcat server and access it.

3. Write a docker file to containerize the application.

4. Build the docker image for the application.

5. Push it to your docker hub repository.

6. Run the docker image of your application with proper port binding.

7. Verify the containerize application is running and accessible.

```
root@ip-172-31-12-129:/opt/tomcat/webapps# sudo systemctl status tomcat
● tomcat.service - Tomcat
     Loaded: loaded (/etc/systemd/system/tomcat.service; enabled; vendor prese▸
     Active: active (running) since Mon 2023-03-13 10:12:08 UTC; 1min 13s ago
    Process: 5624 ExecStart=/opt/tomcat/bin/startup.sh (code=exited, status=0/▸
   Main PID: 5632 (java)
      Tasks: 29 (limit: 1143)
     Memory: 236.9M
        CPU: 6.928s
     CGroup: /system.slice/tomcat.service
             └─5632 /usr/lib/jvm/java-1.11.0-openjdk-amd64/bin/java -Djava.uti▸
```

> This PC > Windows (C:) > gitporject > DevOpsAddressBook > target
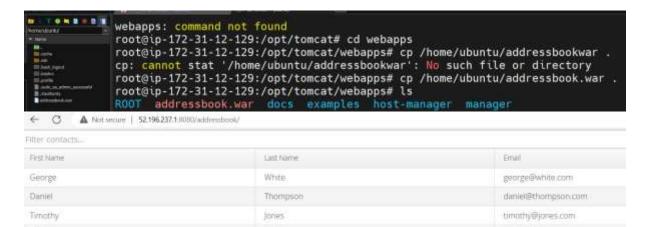
Name	Date modified	Type	Size
📁 addressbook	13-03-2023 15:32	File folder	
📁 classes	13-03-2023 15:31	File folder	
📁 generated-sources	13-03-2023 15:31	File folder	
📁 generated-test-sources	13-03-2023 15:31	File folder	
📁 maven-archiver	13-03-2023 15:32	File folder	
📁 maven-status	13-03-2023 15:31	File folder	
📁 surefire-reports	13-03-2023 15:32	File folder	
📁 test-classes	13-03-2023 15:31	File folder	
📄 addressbook.war	13-03-2023 15:32	WAR File	16,149 KB

```
webapps: command not found
root@ip-172-31-12-129:/opt/tomcat# cd webapps
root@ip-172-31-12-129:/opt/tomcat/webapps# cp /home/ubuntu/addressbookwar .
cp: cannot stat '/home/ubuntu/addressbookwar': No such file or directory
root@ip-172-31-12-129:/opt/tomcat/webapps# cp /home/ubuntu/addressbook.war .
root@ip-172-31-12-129:/opt/tomcat/webapps# ls
ROOT   addressbook.war   docs   examples   host-manager   manager
```

← C ⚠ Not secure | 52.196.237.1:8080/addressbook/

Filter contacts...

First Name	Last Name	Email
George	White	george@white.com
Daniel	Thompson	daniel@thompson.com
Timothy	Jones	timothy@jones.com
Peter	Wilson	peter@wilson.com
Dan	Robinson	dan@robinson.com
Dan	Davis	dan@davis.com
Olivia	Davis	olivia@davis.com
Dan	Smith	dan@smith.com
Daniel	Anderson	daniel@anderson.com

```
root@ip-172-31-12-129:~# docker --version
Docker version 23.0.1, build a5ee5b1
root@ip-172-31-12-129:~# █
```

```
root@ip-172-31-15-165:~# docker --version
Docker version 23.0.1, build a5ee5b1
```

```
drwxr-x---  4 ubuntu ubuntu 4096 Mar 14 03:53 ubuntu
root@ip-172-31-15-165:/home# cd ubuntu
root@ip-172-31-15-165:/home/ubuntu# ls -la
total 16188
drwxr-x--- 4 ubuntu ubuntu     4096 Mar 14 03:53 .
drwxr-xr-x 3 root   root       4096 Mar 14 03:45 ..
-rw------- 1 ubuntu ubuntu       62 Mar 14 03:47 .Xauthority
-rw-r--r-- 1 ubuntu ubuntu      220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu     3771 Jan  6  2022 .bashrc
drwx------ 2 ubuntu ubuntu     4096 Mar 14 03:47 .cache
-rw-r--r-- 1 ubuntu ubuntu      807 Jan  6  2022 .profile
drwx------ 2 ubuntu ubuntu     4096 Mar 14 03:45 .ssh
-rw-r--r-- 1 ubuntu ubuntu        0 Mar 14 03:47 .sudo_as_admin_successful
-rw-rw-r-- 1 ubuntu ubuntu 16535769 Mar 14 03:56 addressbook.war
root@ip-172-31-15-165:/home/ubuntu# vi Dockerfile
root@ip-172-31-15-165:/home/ubuntu# docker build -t swapnil9519/mylab1:ver1 .
[+] Building 14.4s (7/7) FINISHED
 => [internal] load build definition from Dockerfile                    0.0s
 => => transferring dockerfile: 140B                                    0.0s
 => [internal] load .dockerignore                                       0.0s
 => => transferring context: 2B                                         0.0s
```

```
 => => writing image sha256:bb722f9bbe73024bacea69bbb79cbc90ff0ebe06cfb2  0.0s
 => => naming to docker.io/swapnil9519/mylab1:ver1                        0.0s
root@ip-172-31-15-165:/home/ubuntu# docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't
 have a Docker ID, head over to https://hub.docker.com to create one.
Username: swapnil9519
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@ip-172-31-15-165:/home/ubuntu# docker push swapnil9519/mylab1:ver1
The push refers to repository [docker.io/swapnil9519/mylab1]
367f62dc2ef3: Pushed
```

```
ver1: digest: sha256:d4b40330635a08e703a1270df0a865a017f5154dc95aadaca6a7ac619a
23f207 size: 2000
root@ip-172-31-15-165:/home/ubuntu# docker run -itd -p 86:8080 swapnil9519/myla
b1:ver1
f24df53945044b5c98293da190207d3d612ce9bce160273e2355e7688bf0a58a
root@ip-172-31-15-165:/home/ubuntu# docker ps
CONTAINER ID   IMAGE                     COMMAND            CREATED          ST
ATUS         PORTS                                NAMES
f24df5394504   swapnil9519/mylab1:ver1   "catalina.sh run"  6 seconds ago    Up
 4 seconds   0.0.0.0:86→8080/tcp, :::86→8080/tcp   upbeat_cray
```
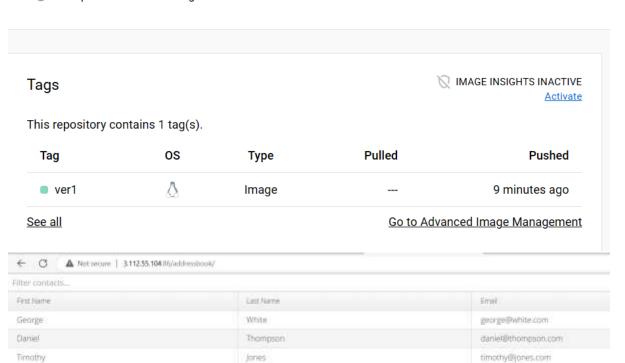
swapnil9519 / **mylab1**

Description

This repository does not have a description ✏️

🕐 Last pushed: 9 minutes ago

Tags

🛡️ IMAGE INSIGHTS INACTIVE

Activate

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
● ver1	🐧	Image	---	9 minutes ago

See all

Go to Advanced Image Management

← C ⚠️ Not secure | 3.112.55.104:86/addressbook/

Filter contacts...

First Name	Last Name	Email
George	White	george@white.com
Daniel	Thompson	daniel@thompson.com
Timothy	Jones	timothy@jones.com
Peter	Wilson	peter@wilson.com
Dan	Robinson	dan@robinson.com
Dan	Davis	dan@davis.com
Olivia	Davis	olivia@davis.com
Dan	Smith	dan@smith.com
Daniel	Anderson	daniel@anderson.com
Alice	Thomas	alice@thomas.com