

Assignments Containerization, Docker, and Docker Hub:

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L1 - Create Docker file and build the docker container Application Image for the application build in Jenkins Module

Step 1 installed docker in ec2 ubuntu instance using command

apt install Docker.io and verified the version using command
docker --version

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-20-51:/home/ubuntu# docker --version  
Docker version 24.0.7, build 24.0.7-0ubuntu2~22.04.1  
root@ip-172-31-20-51:/home/ubuntu#
```

Step2 by using git repository

<https://github.com/Tamil1011/Addressbook2.git> fetched the address book in ec2 ubuntu instance

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-20-51:/home/ubuntu# git clone https://github.com/Tamil1011/Addressbook2.git  
Cloning into 'Addressbook2'...  
remote: Enumerating objects: 356, done.  
remote: Total 356 (delta 0), reused 0 (delta 0), pack-reused 356  
Receiving objects: 100% (356/356), 31.12 MiB | 35.92 MiB/s, done.  
Resolving deltas: 100% (127/127), done.  
root@ip-172-31-20-51:/home/ubuntu# ls  
Addressbook2  
root@ip-172-31-20-51:/home/ubuntu#
```

And installed maven to package the code and to create WAR file

apt install maven -y

man package

```
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 36.175 s
[INFO] Finished at: 2024-07-12T15:59:27Z
[INFO] -----
root@ip-172-31-20-51:/home/ubuntu/Addressbook2#
root@ip-172-31-20-51:/home/ubuntu/Addressbook2# ls
Babufile    Jenkinsfile  addressbook_screenshot.png  build.xml      deploy-docker.yml  file1.txt  provider.tf      src
Dockerfile  README.md    build.properties            create-instance.tf  dev.inv          pom.xml    sonar-project.properties  target
root@ip-172-31-20-51:/home/ubuntu/Addressbook2# cd target/
root@ip-172-31-20-51:/home/ubuntu/Addressbook2/target# ls
addressbook  addressbook.war  classes  generated-sources  maven-archiver  maven-status  surefire-reports  test-classes
root@ip-172-31-20-51:/home/ubuntu/Addressbook2/target#
```

Created the docker file

```
root@ip-172-31-20-51:/home/ubuntu/Addressbook2# cat Dockerfile
FROM tomcat:9
COPY /target/*.war /usr/local/tomcat/webapps/address.war
EXPOSE 8080
CMD ["catalina.sh", "run"]
root@ip-172-31-20-51:/home/ubuntu/Addressbook2#
```

Created the image out of docker file

docker build -t address .

```
root@ip-172-31-20-51:/home/ubuntu/Addressbook2# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
address       latest    759089aa4a92   29 seconds ago  472MB
tomcat        9         11d72868fce2   4 days ago     456MB
root@ip-172-31-20-51:/home/ubuntu/Addressbook2#
```

Created the container out of image

```
root@ip-172-31-20-51:/home/ubuntu/Addressbook2# docker run -itd address:latest
bed4de2776e0bc4dd305291c14f78d4c0506321565eabc92d721cc1bc91d5340
root@ip-172-31-20-51:/home/ubuntu/Addressbook2# docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
bed4de2776e0   address:latest "catalina.sh run"       10 seconds ago Up 8 seconds   8080/tcp       elegant_robinson
root@ip-172-31-20-51:/home/ubuntu/Addressbook2#
```

Changes the security group

[EC2](#) > [Security Groups](#) > [sg-08f164eb86cab2049 - default](#) > [Edit inbound rules](#)

Edit inbound rules [info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules info						
Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional	
sg-0a03bd338e1b596f3	Custom TCP	TCP	8080 - 8089	Custom	<input type="text" value="Q"/>	address app
sg-0bd3b0cc6fab119f9	SSH	TCP	22	Custom	<input type="text" value="0.0.0.0/0 X"/>	

