

Containerization, Docker, and Docker Hub

SUBMITTED BY : ADESH ARUN ADHAV

SUBMITTED TO : MR. VIKUL SIR

BATCH NO. SA240931

DATE: 13/12/2024

L2 - Create the Container using the same Application Image and run the application in a Web Browser using container port mapping

STEP 1 : LAUNCH EC2 INSTANCE

CONFIGURE THE INBOUND RULE(1312)

STEP 2: CONNECT INSTANCE

STEP 3: ADD GIT REPOSITIRY TO THE MACHINE

- Clone the repository

Git clone <https://github.com/adesh8484/addressbook-cicd-project>

- *Remove unnecesrory file
(rm file name)*
 - *Apt update*
- *Apt install openjdk-17-jdk -y*
 - *Apt install maven*
 - *Mvn package*
 - *Apt install docker.io*

STEP 4: CREATE DOCKER FILE

vi Dockerfile

[FROM tomcat:9
COPY target/*.war /usr/local/tomcat/webapps/addressbook.war
EXPOSE 8080
CMD ["catalina.sh","run"] }

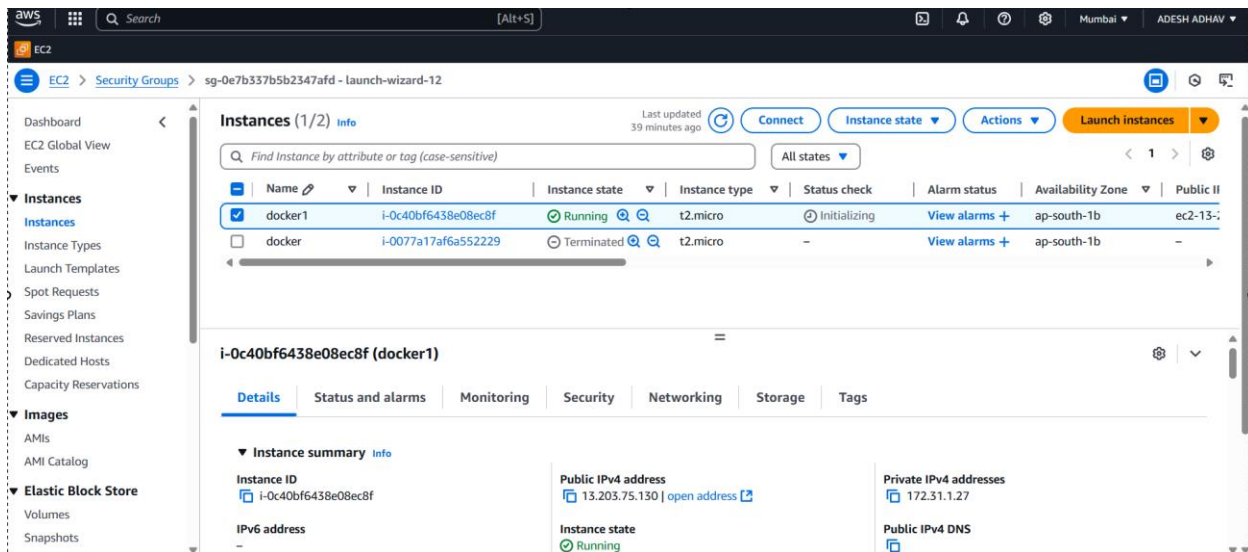
STEP 5: CREATE IMAGE

Docker build -t addressbook1

STEP 6: CREAETE CANTAINER

Docker run -it -p 1312:8080 addressbook1

- HERE MAPPING TAKE PLACE FROM 8080 TO 1312



The screenshot shows the AWS Management Console interface for EC2 instances. The left sidebar contains navigation links for Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, and Snapshots. The main content area displays the 'Instances' page for the 'sg-0e7b337b5b2347afd - launch-wizard-12' security group. It shows a table of instances with columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IP. Two instances are listed: 'docker1' (Running) and 'docker' (Terminated). Below the table, the details for instance 'i-0c40bf6438e08ec8f (docker1)' are shown, including its Public IPv4 address (13.203.75.130) and Instance state (Running).

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
docker1	i-0c40bf6438e08ec8f	Running	t2.micro	Initializing	View alarms +	ap-south-1b	ec2-13-
docker	i-0077a17af6a552229	Terminated	t2.micro	-	View alarms +	ap-south-1b	-

i-0c40bf6438e08ec8f (docker1)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary

Instance ID i-0c40bf6438e08ec8f	Public IPv4 address 13.203.75.130 open address	Private IPv4 addresses 172.31.1.27
IPv6 address -	Instance state Running	Public IPv4 DNS [link]

aws

Search

[Alt+S]

Mumbai

ADESH ADHAV

EC2

EC2 > Security Groups > sg-0e7b337b5b2347afd - launch-wizard-12 > Edit inbound rules

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
sg-02f1548ce4bdee56b	HTTP	TCP	80	Cu...	0.0.0.0/0	Delete
sg-0265bd047fe0c39fc	SSH	TCP	22	Cu...	0.0.0.0/0	Delete
-	Custom TCP	TCP	1312	An...	0.0.0.0/0	Delete

Add rule

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Preview changes Save rules

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

78°F Sunny

Search

1:58 PM 12/14/2024

aws

Search

[Alt+S]

Mumbai

ADESH ADHAV

EC2

EC2 > CloudShell > i-0c40bf6438e08ec8f (docker1)

```
Sending build context to Docker daemon 48.09MB
Step 1/4 : FROM tomcat:9
9: Pulling from library/tomcat
1e44b265507a: Pull complete
1c2afd91a87d: Pull complete
39e9bbcfa697: Pull complete
11be3e613582: Pull complete
1b9d1e181a2a: Pull complete
fc68c0117916: Pull complete
1f4fb700ef54: Pull complete
9977ace6014e: Pull complete
Digest: sha256:49f92b415416c22e8ada507179bff7b0cded9687732068906292a6f960b3f917
Status: Downloaded newer image for tomcat:9
--> 39e42322f89a
Step 2/4 : COPY target/*.war /usr/local/tomcat/webapps/addressbook.war
--> 77cfd178879
Step 3/4 : EXPOSE 8080
--> Running in 60c556e112ad
--> Removed intermediate container 60c556e112ad
--> 6a000228693c
Step 4/4 : CMD ["catalina.sh","run"]
--> Running in baf1f7496a31
--> Removed intermediate container baf1f7496a31
--> edb01cb7478d
Successfully built edb01cb7478d
Successfully tagged addressbook:latest
root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project#
```

i-0c40bf6438e08ec8f (docker1)

PublicIPs: 13.203.75.130 PrivateIPs: 172.31.1.27

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

aws

Search

[Alt+S]

EC2

Mumbai

ADESH ADHAV

FROM tomcat:9

COPY target/*.war /usr/local/tomcat/webapps/addressbook.war

EXPOSE 8080

MD ["catalina.sh","run"]

Dockerfile" 4L, 112B

2, 18

All

i-0c40bf6438e08ec8f (docker1)

PublicIPs: 13.203.75.130 PrivateIPs: 172.31.1.27

aws

Search

[Alt+S]

EC2

Mumbai

ADESH ADHAV

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# docker images

REPOSITORY TAG IMAGE ID CREATED SIZE

addressbook1 latest edb01cb7478d 3 minutes ago 491MB

tomcat 9 39642322f89a 4 days ago 469MB

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# docker run -itd -p 1312:8080 addressbook1

7de0a230c117fc0f041aa61b9446cf56018d7bb1467c02348a453af7d24bbcd2

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# docker ps

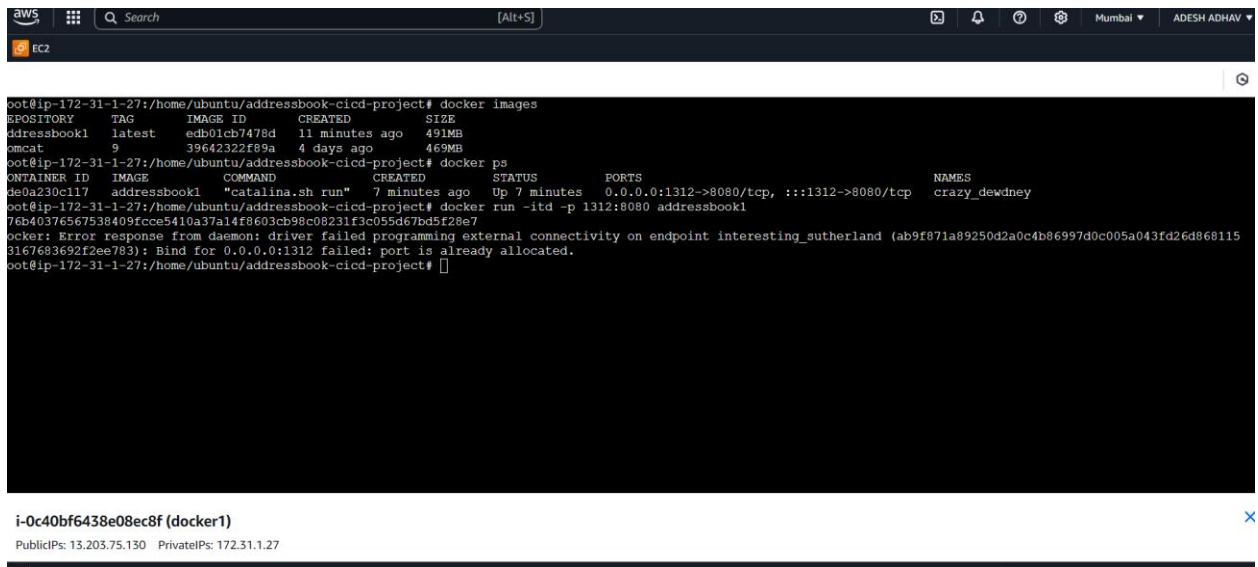
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

7de0a230c117 addressbook1 "catalina.sh run" 7 seconds ago Up 6 seconds 0.0.0.0:1312->8080/tcp, :::1312->8080/tcp crazy_dewdney

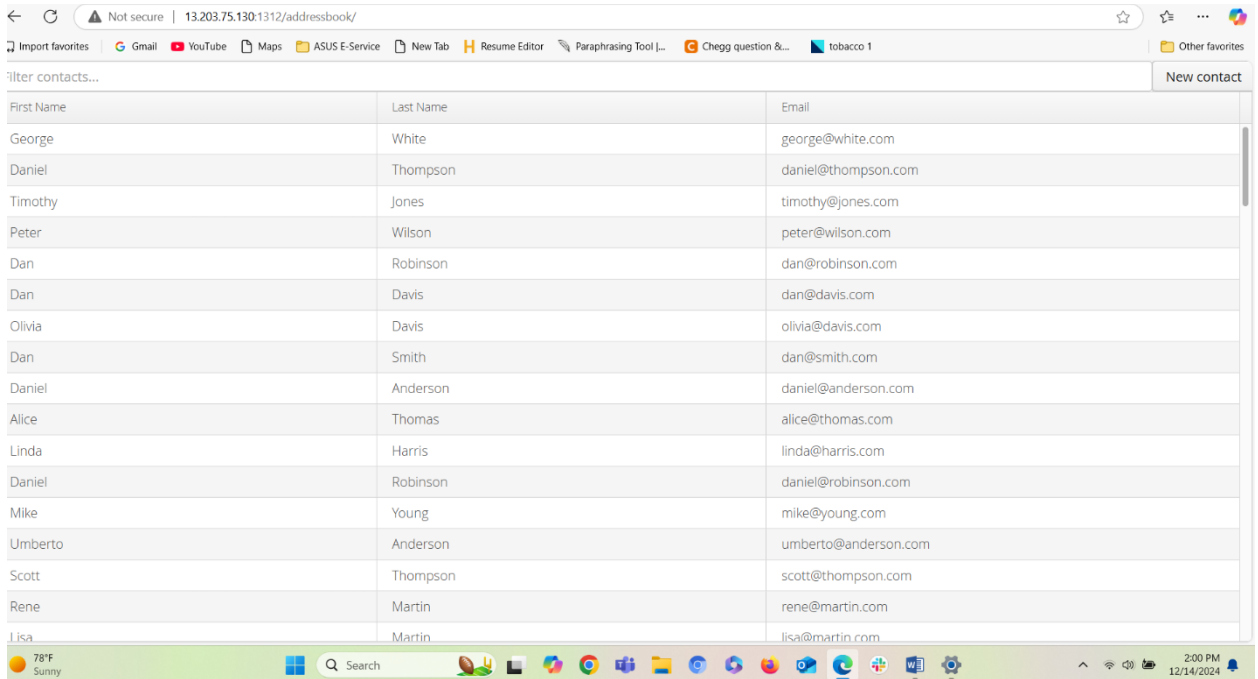
root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project#

i-0c40bf6438e08ec8f (docker1)

PublicIPs: 13.203.75.130 PrivateIPs: 172.31.1.27



IP ADDRESS <http://13.203.75.130:1312/addressbook/>



AWS [Alt+S] Mumbai ▼ ADESH ADHAV

```

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
addressbook1        latest             edb01cb7478d       3 minutes ago      491MB
cmcat               9                 39642322f89a       4 days ago         469MB

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# docker run -itd -p 1312:8080 addressbook1
de0a230c117fc0f041aa61b9446c9f56018d7bb1467c02348a453af7d24bbcd2

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
de0a230c117        addressbook1        "catalina.sh run"   7 seconds ago      Up 6 seconds        0.0.0.0:1312->8080/tcp, :::1312->8080/tcp
crazy_dewdney

root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project# history
1  git clone https://github.com/adesh8484/addressbook-cicd-project.git
2  ls
3  cd addressbook-cicd-project
4  ls
5  apt install openjdk-17-jdk -y
6  apt update
7  apt install openjdk-17-jdk -y
8  java --version
9  apt install maven -y
10 mvn package
11 ls
12 cd target
13 ls
14 cd ..
15 cd ..
16 vi Dockerfile
17 docker build -t addressbook .

```

i-0c40bf6438e08ec8f (docker1)

PublicIPs: 13.203.75.130 PrivateIPs: 172.31.1.27




[Alt+S]




Mumbai ▾
ADESH ADHAV ▾

```

7 apt install openjdk-17-jdk -y
8 java --version
9 apt install maven -y
10 mvn package
11 ls
12 cd target
13 ls
14 cd ..
15 cd ..
16 vi Dockerfile
17 docker build -t addressbook .
18 apt install docker.io
19 docker build -t addressbook .
20 docker build -t addressbook1 .
21 vi Dockerfile
22 docker build -t addressbook1 .
23 vi Dockerfile
24 docker build -t addressbook1 .
25 vi Dockerfile
26 docker build -t addressbook1 .
27 docker images
28 clear
29 docker images
30 docker run -itd -p 1312:8080 addressbook1
31 docker ps
32 history
root@ip-172-31-1-27:/home/ubuntu/addressbook-cicd-project#

```

i-0c40bf6438e08ec8f (docker1)

PublicIPs: 13.203.75.130 PrivateIPs: 172.31.1.27