# 1.APPLICATION:

CLONE THE BELOW MENTIONED REPO AND DEPLOY THE APPLICATION. (RUN THE APPLICATION IN PORT 80[HTTP])

REPO URL: https://github.com/rvsp/reactjs-demo.git

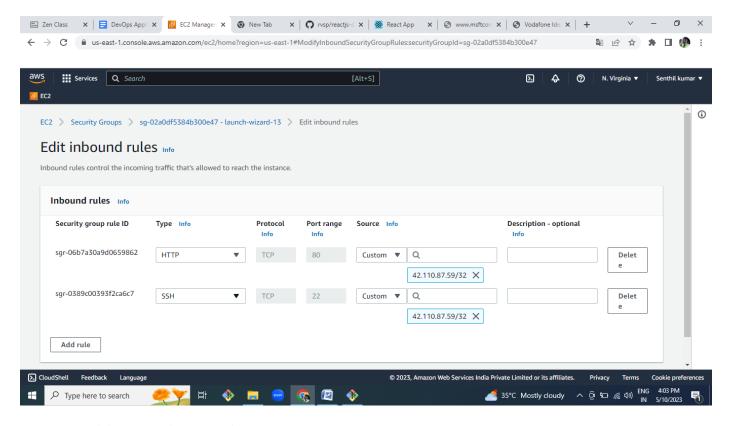
### **GIT CLONE**

```
root@ip-172-31-22-251:~# git clone https://github.com/rvsp/reactjs-demo.git
Cloning into 'reactjs-demo'...
remote: Enumerating objects: 40, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 40 (delta 2), reused 2 (delta 2), pack-reused 36
Receiving objects: 100% (40/40), 175.93 KiB | 12.57 MiB/s, done.
Resolving deltas: 100% (11/11), done.
```

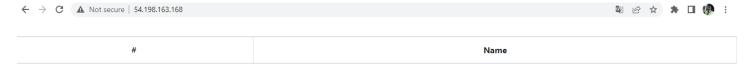
### **ARTIACTS**

```
root@ip-172-31-22-251:~/reactjs-demo# ls
README.md build node_modules package-lock.json package.json public src
```

### SG-(HTTP) PORT 80



# APPLICATION DEPLOYED



# 2.DOCKER:

root@ip-172-31-88-79:~/reactjs-demo# ls

# DOCKERIZE THE APPLICATION BY CREATING A DOCKERFILE CREATE A DOCKER-COMPOSE FILE TO USE THE ABOVE IMAGE

```
README.md build node_modules package-lock.json package.json public src
root@ip-172-31-88-79:~/reactjs-demo#
 root@ip-172-31-88-79:~/reactjs-demo#
root@ip-172-31-88-79:~/reactjs-demo#
root@ip-172-31-88-79:~/reactjs-demo# vim Dockerfile
root@ip-172-31-88-79:~/reactjs-demo# ls
Dockerfile README.md build node_modules package-lock.json package.json public src
root@ip-172-31-88-79:~/reactjs-demo# cat Dockerile
cat: Dockerile: No such file or directory
 root@ip-172-31-88-79:~/reactjs-demo# cat Dockerfile
FROM nginx:stable
COPY build /usr/share/nginx/html
root@ip-172-31-88-79:~/reactjs-demo#
root@ip-172-31-88-79:~/reactjs-demo# vim docker-compose.yml
root@ip-172-31-88-79:~/reactjs-demo# ls
Dockerfile README.md build docker-compose.yml node_modules package-lock.json package.json public src
root@ip-172-31-88-79:~/reactjs-demo# cat docker-compose.yml
version: "V1"
  web:
    build: .
    ports:
- "80:80"
  ot@ip-172-31-88-79:~/reactjs-demo# |
```

```
| Fig. |
```

# 3.BASH SCRIPTING:

# WRITE 2 SCRIPTS BUILD.SH FOR BUILDING DOCKER IMAGES DEPLOY.SH - FOR DEPLOYING THE IMAGE TO SERVER

#!/bin/bash
sudo apt-get update &&>/dev/null
sudo git clone https://github.com/rvsp/reactjs-demo.git
sudo apt-get update && apt-get install npm -y &>/dev/null
cd reactjs-demo
sudo npm install &>/dev/null
sudo npm run build &>/dev/null

#!/bin/bash docker build -t capstone:v1 . docer run -d -p 80:80 capstone:v1

### **VERSION CONTROL:**

gitignore ...

README.md

package.json

P Type here to search

package-lock.json

1st commit

1st commit

changes

Initialize project using Create React App

# PUSH THE CODE TO GITHUB TO DEV BRANCH (USE DOCKERIGNORE & GITIGNORE FILES) NOTE: USE ONLY CLI FOR RELATED GIT COMMANDS

```
root@ip-172-31-22-251: ~/reactjs-demo
root@ip-172-31-22-251:~# git clone https://github.com/rvsp/reactjs-demo.git
Cloning into 'reactjs-demo'...
remote: Enumerating objects: 40, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 40 (delta 2), reused 2 (delta 2), pack-reused 36
Receiving objects: 100% (40/40), 175.93 KiB | 5.33 MiB/s, done.
Resolving deltas: 100% (11/11), done.
root@ip-172-31-22-251:~# ls
reactjs-demo snap
 oot@ip-172-31-22-251:~/reactjs-demo# ls
README.md package-lock.json package.json public src
root@ip-172-31-22-251:~/reactjs-demo# ls
README.md build node_modules package-lock.json package.json public src
root@ip-172-31-22-251:~/reactjs-demo# vim .gitignore
root@ip-172-31-22-251:~/reactjs-demo# git add .
root@ip-172-31-22-251:~/reactjs-demo# git commit -m "1st commit"
root@ip-172-31-22-251:~/reactjs-demo# git remote add origin git@github.com:senthilkumarbs11/reactjs.git
 oot@ip-172-31-22-251:~/reactjs-demo# git push -u origin master
🖭 Zen Class X 📘 DevOps Application Deploym X 🔯 EC2 Management Console X 😵 Vodafone Idea - Wi-Fi X 🕠 senthilkumarbs 11/reactjs X 🕂
 ← → C 🗎 github.com/senthilkumarbs11/reactjs/tree/master
                                                                                             단 회 순 ☆ ★ □ (출 :
                                    Pull requests Issues Codespaces Marketplace Explore
                                                                                                      Δ + - 🐠

        ♦ Pin
        ● Unwatch
        1 →
        ♥ Fork
        0 →
        ★ Star
        0 →

  ☐ senthilkumarbs11 / reactjs Public
   ੴ master → ੳ 1 branch ♦ 0 tags
                                                        Go to file Add file ▼
                                                                         <>> Code ▼
                                                                                   No description, website, or topics provided.
         root 2nd
                                                           afbdd8c 1 minute ago 😘 6 commits
                                                                                   ☐ Readme
      build
                                                                                   ☆ 0 stars
                               1st commit
                                                                        10 minutes ago

    1 watching

      public
                               Initialize project using Create React App
                                                                         3 years ago
                                                                                   앟 0 forks
      src src
                               changes
                                                                         3 years ago
      dockerignore
                               2nd
                                                                        1 minute ago
                                                                                   Releases
```

10 minutes ago

10 minutes ago

3 years ago

3 years ago

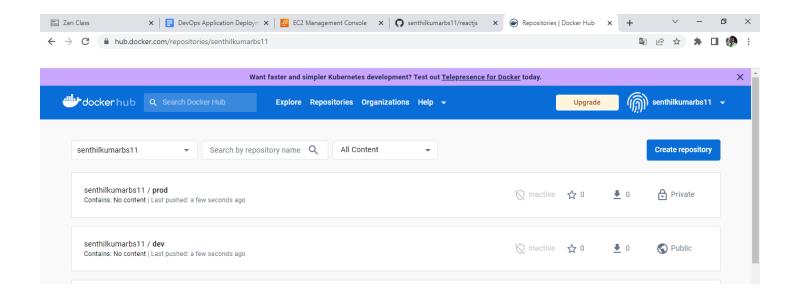
No releases published Create a new release

No packages published

Packages

# **DOCKER HUB:**

- CREATE 2 REPOS "DEY" AND "PROD" TO PUSH IMAGES.
- "PROD" REPO MUST BE PRIVATE AND "DEV" REPO CAN BE PUBLIC



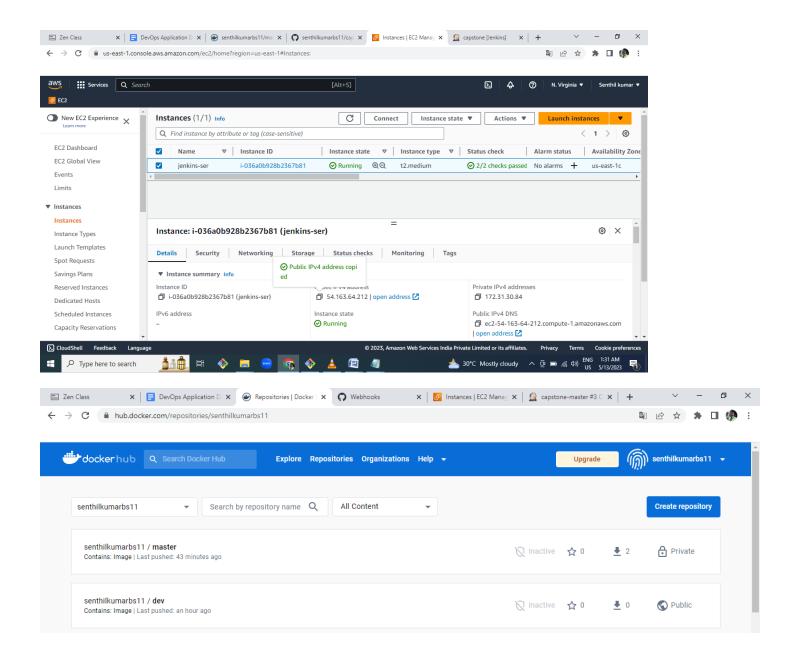
#### **JENKINS:**

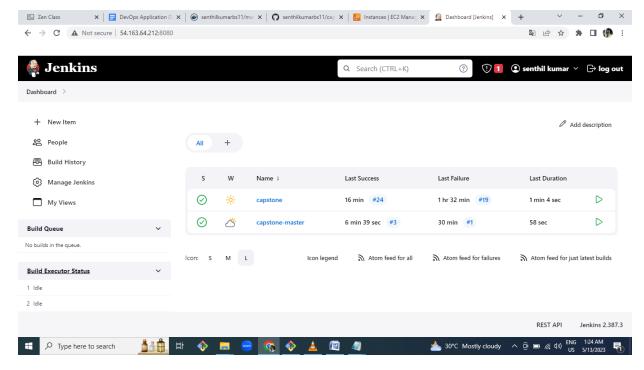
INSTALL AND CONFIGURE JENKINS BUILD STEP AS PER NEEDS TO BUILD, PUSH & DEPLOY THE APPLICATION

- CONNECT JENKINS TO THE GITHUB REPO WITH AUTO BUILD TRIGGER FROM BOTH DEV & MASTER BRANCH
- IF CODE PUSHED TO DEV BRANCH, DOCKER IMAGE MUST BUILD AND PUSHED TO DEV REPO IN DOCKER

HUB

• IF DEV MERGED TO MASTER, THEN DOCKER IMAGE MUST BE PUSHED TO PROD REPO IN DOCKER HUB





capstone(dev branch) CI/CD pipeline SHELL STEPS

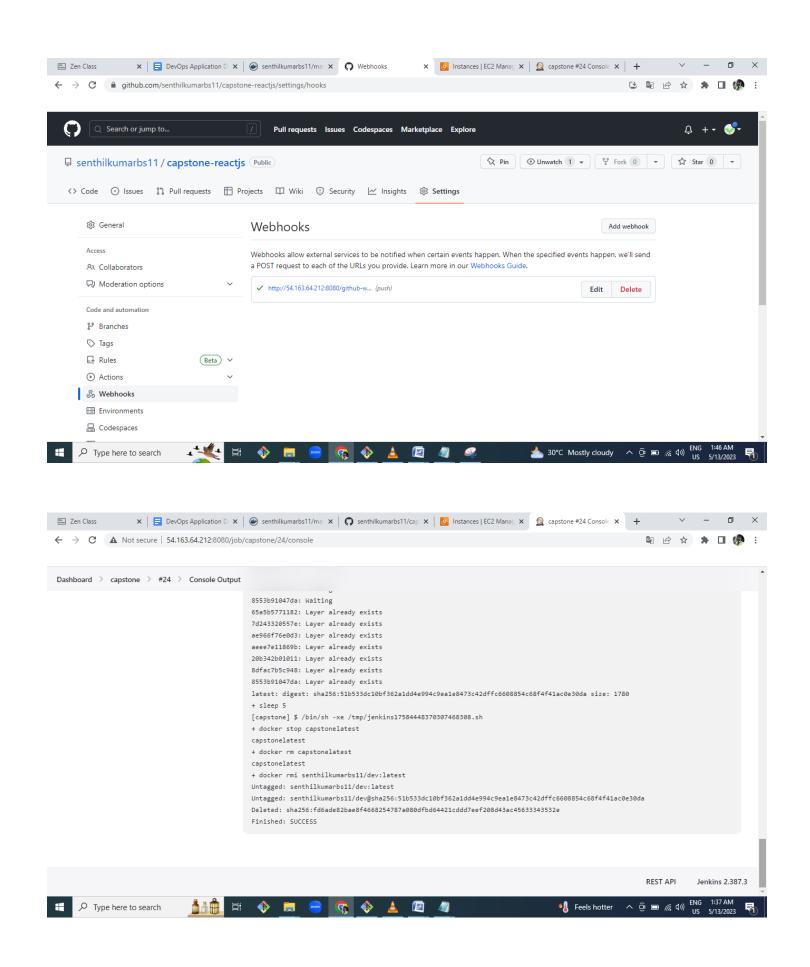
ls

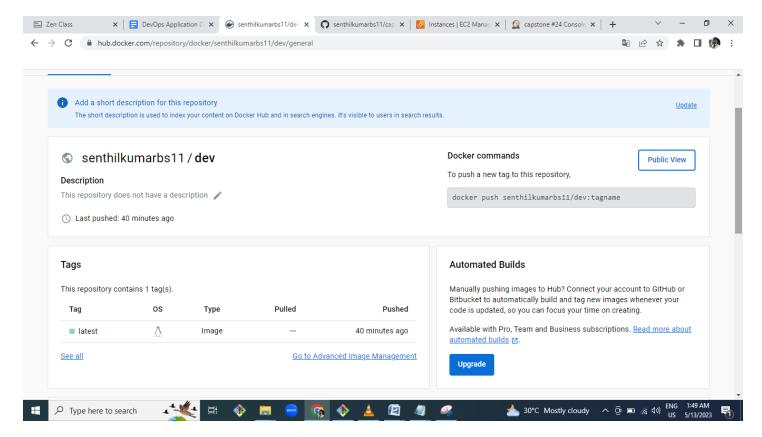
#built npm install npm run build Is

#creating docker image docker build -t senthilkumarbs11/dev:\$version . docker images

#deploy & pushed image docker run -d -p 80:80 --name=capstone\$version senthilkumarbs11/dev:\$version sleep 20 docker push senthilkumarbs11/dev:\$version sleep 5

#stop & removing container & images docker stop capstone\$version docker rm capstone\$version docker rmi senthilkumarbs11/dev:\$version





capstone-master (MASTER branch) CI/CD pipeline SHELL STEPS

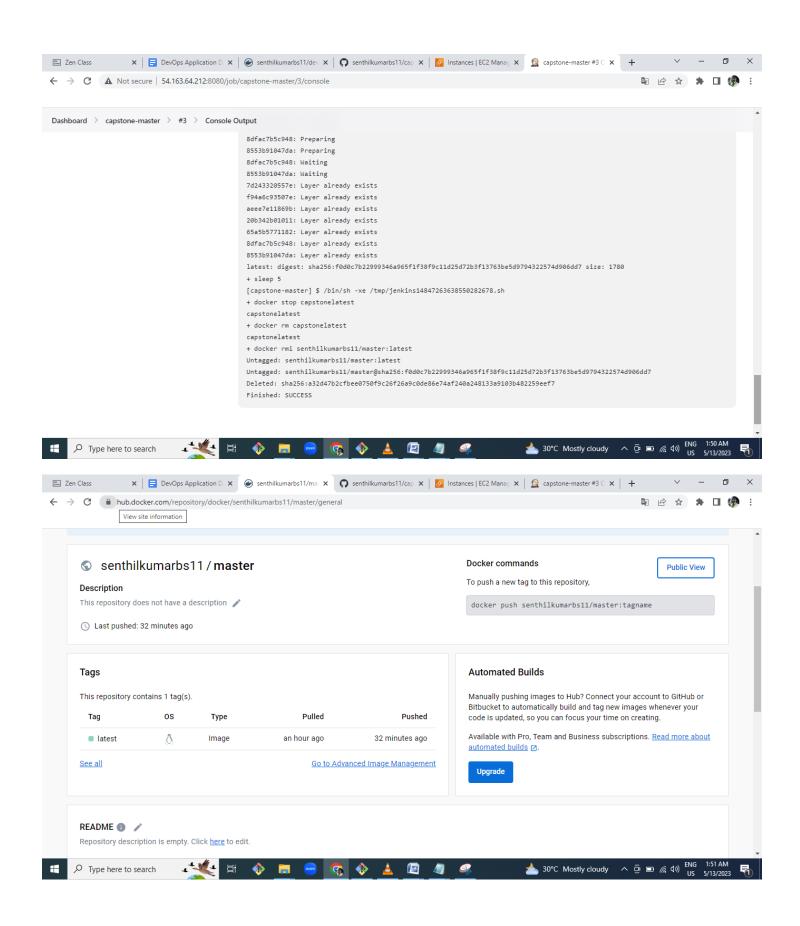
ls

#built npm install npm run build Is

#creating docker image docker build -t senthilkumarbs11/master:\$version . docker images

#deploy & pushed image docker run -d -p 80:80 --name=capstone\$version senthilkumarbs11/master:\$version sleep 20 docker push senthilkumarbs11/master:\$version sleep 5

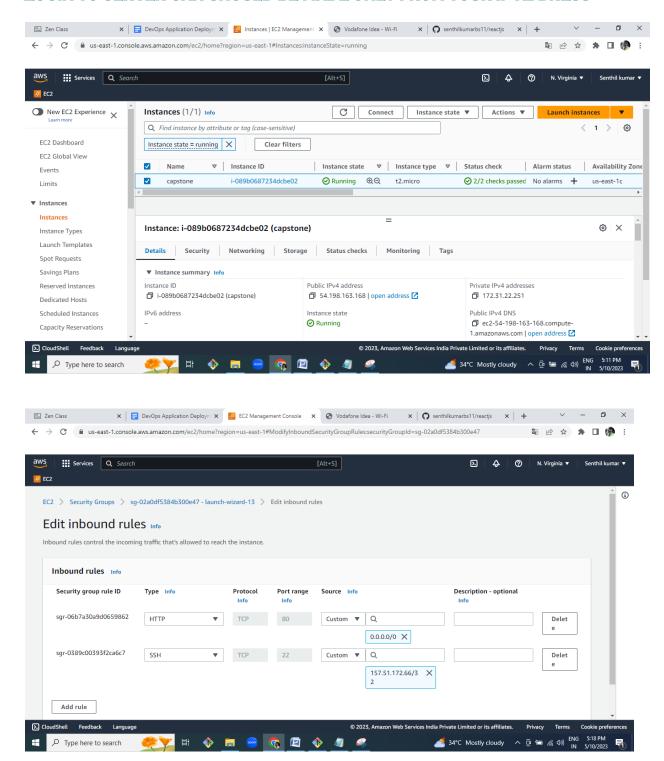
#stop & removing container & images docker stop capstone\$version docker rm capstone\$version docker rmi senthilkumarbs11/master:\$version



### AWS:

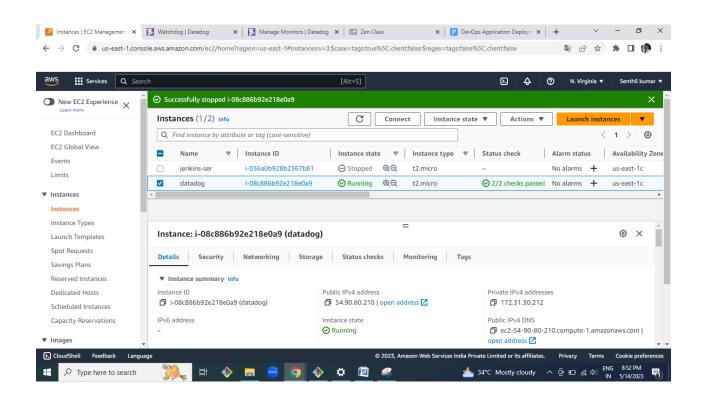
LAUNCH T2.MICRO INSTANCE AND DEPLOY THE CREATE APPLICATION. CONFIGURE SG AS BELOW:

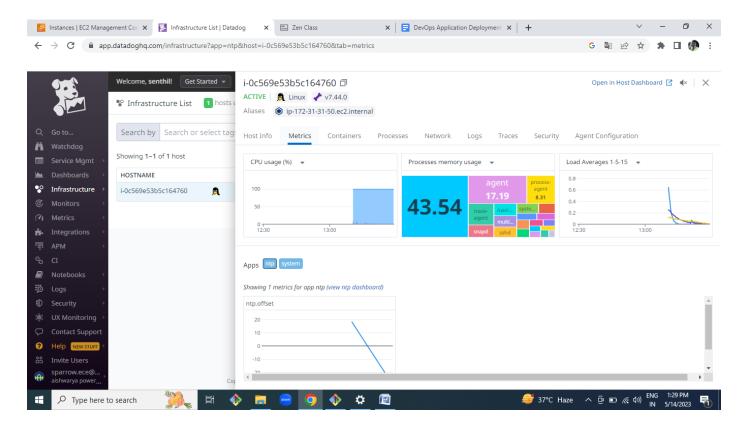
# WHOEVER HAS THE IP ADDRESS CAN ACCESS THE APPLICATION LOGIN TO SERVER CAN SHOULD BE MADE ONLY FROM YOUR IP ADDRESS



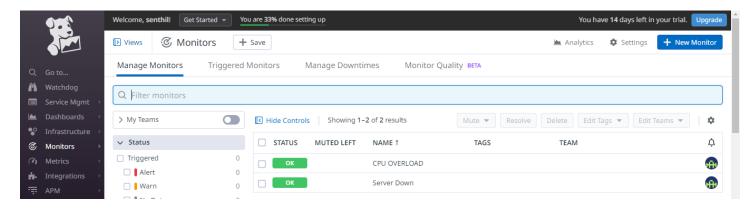
# **MONITORING:**

SETUP A MONITORING SYSTEM TO CHECK THE HEALTH STATUS OF THE APPLICATION. (OPEN-SOURCE) SENDING NOTIFICATIONS ONLY IF THE APPLICATION GOES DOWN IS HIGHLY APPRECIABLE





### TWO MONITOR TASK ASSIGNED:



### USING STRESS TOOL INCREASED CPU UTILIZATION GOT ALERT NOTIFICATION GOT

### AND SERVERDOWN NOTIFICATION ALSO WHEN SERVER WAS STOPPED

