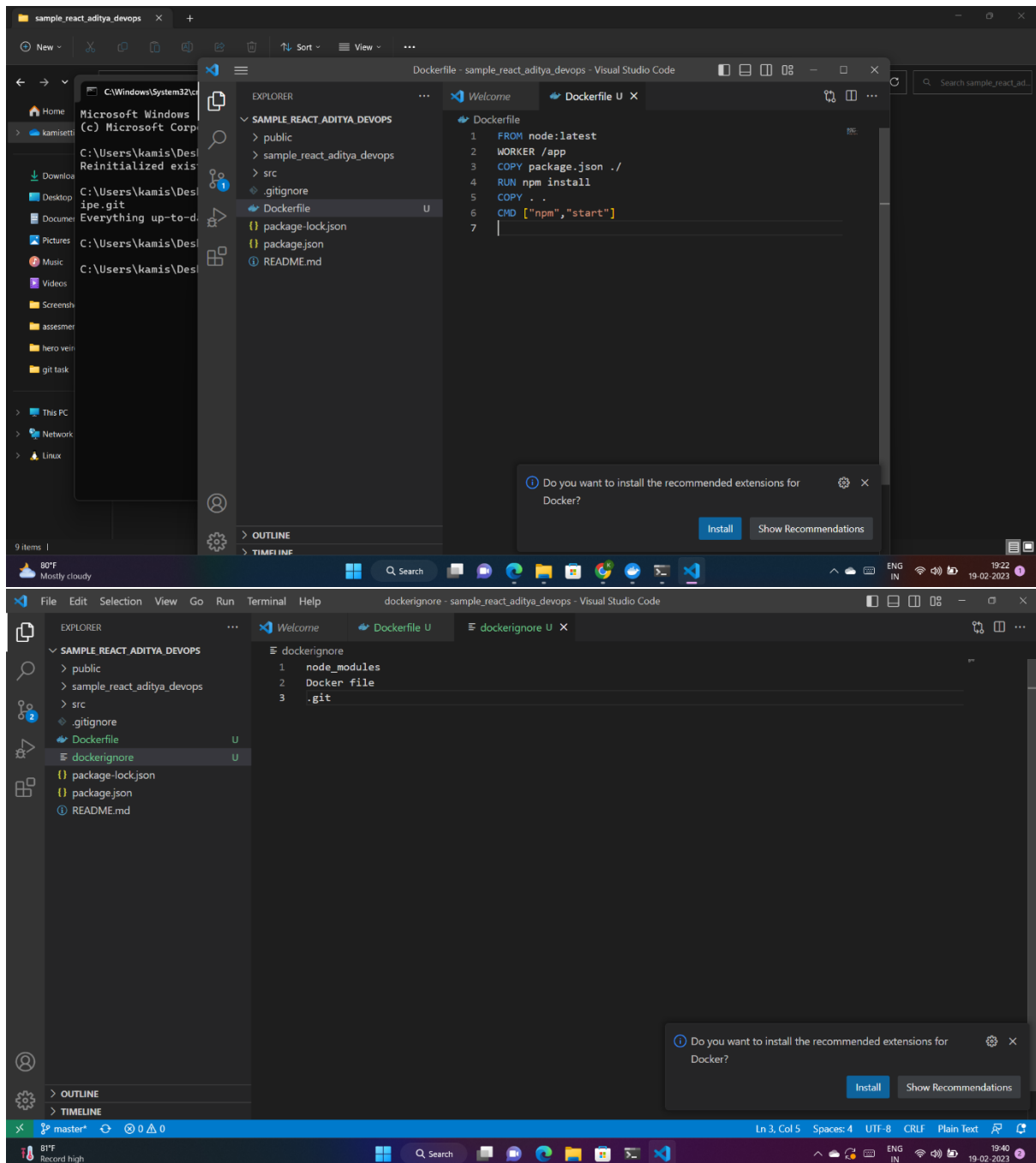


Question1 : You are provided with a ReactJS application and it can be found on the repository with the link provided below. Create a Dockerfile for this React application and also create image and run the image as container and the output of the ReactJS application should be shown on the localhost.



```
MINGW64/c/Users/kamis/Desktop/reactjs/sample_react_aditya_devops
kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker login
Logging in with existing credentials...
Login Succeeded
Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/
kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker build -t reactimage .
#1 [internal] load build definition from Dockerfile
#1 sha256:835fcd835148402c908eb14dc7566ba5a703c378e4b65f9170227230a9
#1 transferring dockerfile: 1388 done
#1 DONE 0.0s
#2 [internal] load .dockerignore
#2 sha256:d16f0b46ad49d52b32b26c1cdded12127ccfe8fefd7224871df611fde0576
#2 transferring context: 28 done
#2 DONE 0.0s
failed to solve with frontend dockerfile.v0: failed to create LLB definition: dockerfile parse error line 2: unknown instruction: WORKER
kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker build -t reactimage .
#1 [internal] load build definition from Dockerfile
#1 sha256:918e990a3726901ab1aeb4ceef6f0c3b5e8ab3af00c651af5a982c2dbdc7b
#1 transferring dockerfile: 1398 0.0s done
#1 DONE 0.0s
#2 [internal] load .dockerignore
#2 sha256:954fb1f4e4eca84eb770070fec3fca4b40dfe2ef28af580b45a5ef9f303c
#2 transferring context: 28 done
#2 DONE 0.0s
#3 [internal] load metadata for docker.io/library/node:latest
#3 sha256:1c0b05b884068c98f7acac32e4f7fd374ebal122b4adcb1de68aa72d5a6046f
#3 ...
#4 [auth] library/node:pull token for registry-1.docker.io
#4 sha256:f3f3fab7808d81c891f2ddcd1cfc5c03489f60adfbaf6f67b56ee1bd08da1
#4 DONE 0.0s
#5 [internal] load metadata for docker.io/library/node:latest
#5 sha256:1c0b05b884068c98f7acac32e4f7fd374ebal122b4adcb1de68aa72d5a6046f
#5 DONE 7.0s
#9 [1/5] FROM docker.io/library/node:latest@sha256:d82f1c3ab27a01bd49f963ff4d24ef868852da6d3780d9d42e93b03f4fa3f62a
#9 sha256:da61a20d66c8d1db451b93e08a5b4599af3df1f6e75e3278a59271066c0f0eb
#9 resolve docker.io/library/node:latest@sha256:d82f1c3ab27a01bd49f963ff4d24ef868852da6d3780d9d42e93b03f4fa3f62a 0.0s done
#9 sha256:1e4ae178e0864d93a6f9720bde344587144562c180118eca1238d3a0e80d 0B / 55.09MB 0.1s
#9 sha256:6c1024729feeb2893dad3684fe79c4d866c3640dfc3912bbd93c5a51f32d2 0B / 5.17MB 0.1s
#9 sha256:c3a111bc5a2e866e98cf4db2ad8cde983eab387565c356rdd1dd72654c 0B / 10.88MB 0.1s
#9 sha256:d82f1c3ab27a01bd49f963ff4d24ef868852da6d3780d9d42e93b03f4fa3f62a 1.21kB / 1.21kB done
#9 sha256:5dd258b30c84184b7ca8fd95b9105eb0fee9bc316baf3491375af1dc7e947b9 2.21kB / 2.21kB done
#9 sha256:b2604a913772e2b73b0eb03078a388410e5e03b2f61c3aa71fecbaf013b71d7 7.51kB / 7.51kB done
#9 ...

MINGW64/c/Users/kamis/Desktop/reactjs/sample_react_aditya_devops
See 'docker tag --help'.

Usage: docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]

Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE

kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker tag reactimage:latest kamisetti-kavya-12345/reactimage

kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker push kamisetti-kavya-12345/reactimage
Using default tag: latest
The push refers to repository [docker.io/kamisetti-kavya-12345/reactimage]
1c3a2f763def: Preparing
010e4de1a513: Preparing
9408a4e4e103b: Preparing
977ea4f7b67c: Preparing
05710631793c: Preparing
9b46c896a158: Preparing
c61adbf0488: Preparing
4c92897e605e: Preparing
068539e9ff1f: Preparing
c61adbf0488: waiting
9b46c896a158: waiting
11829b3be9c0: Preparing
4c92897e605e: waiting
068539e9ff1f: waiting
dc6e1d8b53e9: Preparing
11829b3be9c0: waiting
9b46c896a158: Preparing
6c3961aad50: Preparing
8e3961aad50: waiting
9b46c896a158: waiting
dc6e1d8b53e9: waiting
denied: requested access to the resource is denied

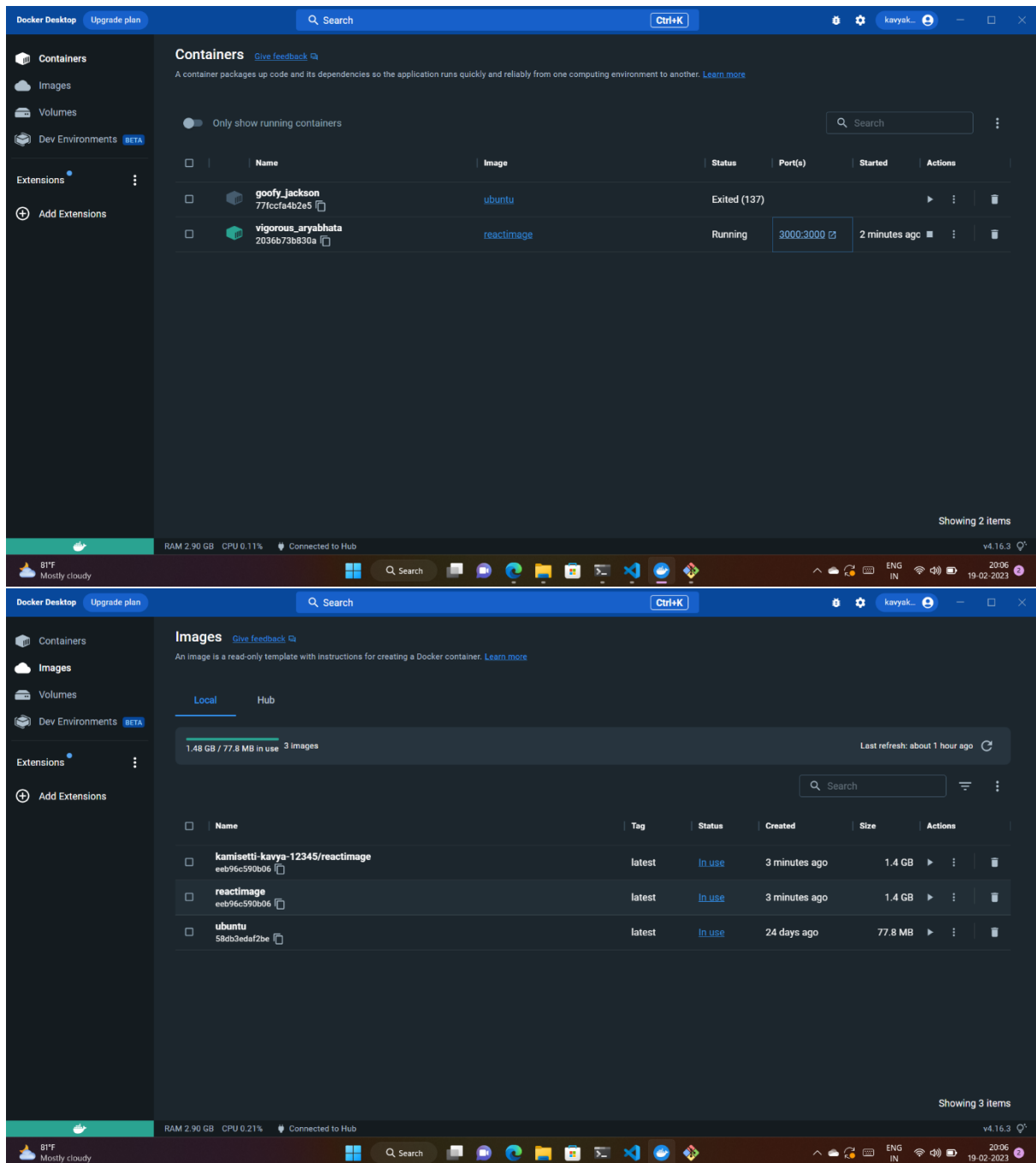
kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker run -d -p 3000:3000
docker run requires at least 1 argument.
See 'docker run --help'.

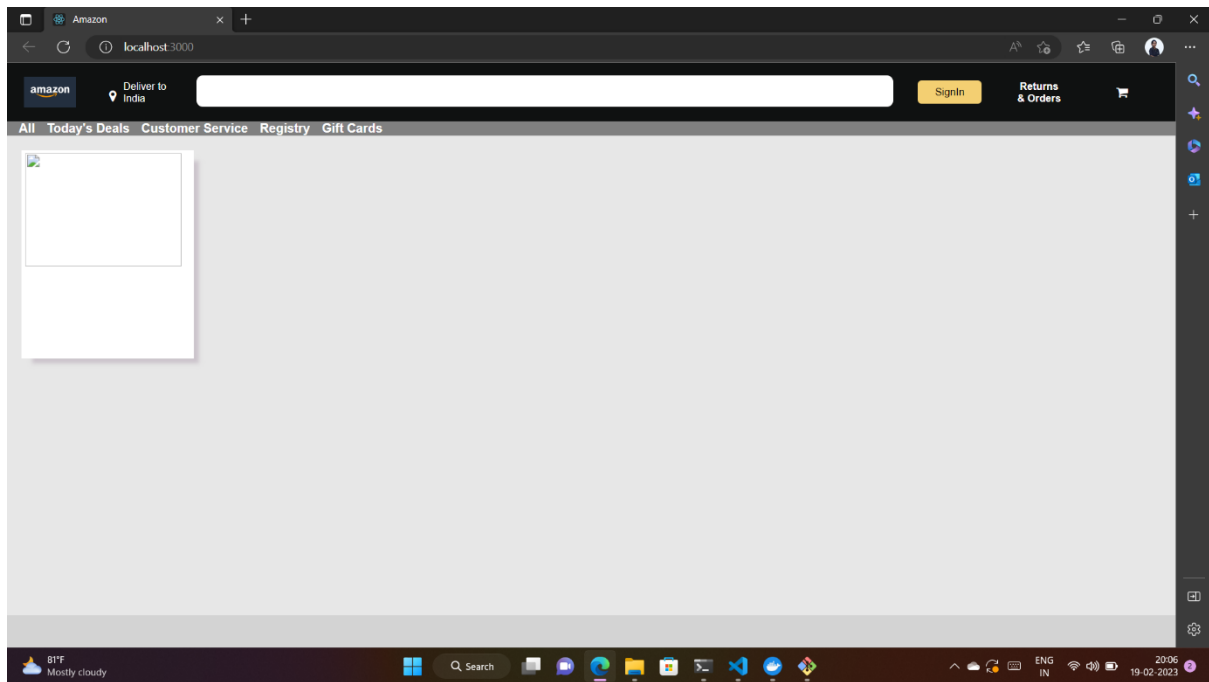
Usage: docker run [OPTIONS] IMAGE [COMMAND] [ARG...]

Run a command in a new container

kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker run -d -p 3000:3000 reactimage
2036b73b830e415f7ac2c426fdd6c8490cd1387b0fe69c5fc8b979fd9ae40d1

kamis@LAPTOP-15A6THRE MINGW64 ~/Desktop/reactjs/sample_react_aditya_devops (master)
$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
kamisetti-kavya-12345/reactimage   latest             eeb96c590b06       4 minutes ago      1.41GB
reactimage           latest             eeb96c590b06       4 minutes ago      1.41GB
ubuntu              latest             58db3eda72be        3 weeks ago        77.9MB
```





Question 2:

Describe the CI-CD pipeline and also describe the role of Jenkins here.

You have to create a manual ci-cd pipeline through bash script and cron jobs for a nodejs simple application.

For the Node JS application you can have the same application provided to you on the repository here

:<https://github.com/snehal-herovired/LearningGIt>

```

Activities Terminal Feb 19 10:06
osboxes@osboxes: ~/Desktop/nodejs

osboxes@osboxes:~$ ls
Desktop Documents Downloads jyo.sh Music nodejs Pictures Public sample.sh Templates Videos
osboxes@osboxes:~$ cd Desktop
osboxes@osboxes:~/Desktop$ git clone https://github.com/kanisetti-kavya-12345/nodejs.git
Cloning into 'nodejs'...
remote: Enumerating objects: 31, done.
remote: Counting objects: 100% (31/31), done.
remote: Compressing objects: 100% (30/30), done.
remote: total 31 (delta 0), reused 31 (delta 0), pack-reused 0
Unpacking objects: 100% (31/31), 330.05 KiB | 867.80 KiB/s, done.
osboxes@osboxes:~/Desktop$ sudo apt install nodejs
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libc-ares2 libnode64 nodejs-doc
Suggested packages:
  npm
The following NEW packages will be installed:
  libc-ares2 libnode64 nodejs nodejs-doc
0 upgraded, 4 newly installed, 0 to remove and 173 not upgraded.
Need to get 6,769 kB/6,807 kB of archives.
After this operation, 30.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 libnode64 amd64 10.19.0-dfsg-3ubuntu1 [5,765 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 nodejs amd64 10.19.0-dfsg-3ubuntu1 [942 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 nodejs-doc all 10.19.0-dfsg-3ubuntu1 [942 kB]
Get:4 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 libc-ares2 amd64 1.15.0-1ubuntu0.1 [61.1 kB]
Fetched 272 kB in 6min 42s (676 B/s)
Selecting previously unselected package libc-ares2:amd64.
(Reading database ... 185355 files and directories currently installed.)
Preparing to unpack .../libc-ares2_1.15.0-1ubuntu0.1_amd64.deb ...
Unpacking libc-ares2:amd64 (1.15.0-1ubuntu0.1) ...
Selecting previously unselected package libnode64:amd64.
Preparing to unpack .../libnode64_10.19.0-dfsg-3ubuntu1_amd64.deb ...
Unpacking libnode64:amd64 (10.19.0-dfsg-3ubuntu1) ...
Selecting previously unselected package nodejs-doc.
Preparing to unpack .../nodejs-doc_10.19.0-dfsg-3ubuntu1_all.deb ...
Unpacking nodejs-doc (10.19.0-dfsg-3ubuntu1) ...
Selecting previously unselected package nodejs.
Preparing to unpack .../nodejs_10.19.0-dfsg-3ubuntu1_amd64.deb ...
Unpacking nodejs (10.19.0-dfsg-3ubuntu1) ...
Setting up libc-ares2:amd64 (1.15.0-1ubuntu0.1) ...
Setting up libnode64:amd64 (10.19.0-dfsg-3ubuntu1) ...
Setting up nodejs-doc (10.19.0-dfsg-3ubuntu1) ...
Setting up nodejs (10.19.0-dfsg-3ubuntu1) ...
update-alternatives: using /usr/bin/nodejs to provide /usr/bin/js (js) in auto mode
  
```

```
Activities Terminal Feb 19 11:15 osboxes@osboxes: ~/Desktop/nodejs

osboxes@osboxes:~/Desktop/nodejs$ nano deploy.sh
osboxes@osboxes:~/Desktop/nodejs$ cat deploy.sh
#!/bin/bash
cd /home/osboxes/Desktop/nodejs

git pull
pip install -r requirements.txt

if ! pgrep -f "python3 app.py" > /dev/null ;then
    nohup python3 app.py &
    ft
fi

osboxes@osboxes:~/Desktop/nodejs$ chmod +x deploy.sh
osboxes@osboxes:~/Desktop/nodejs$ ls -l
ls: cannot access 'l1': No such file or directory
osboxes@osboxes:~/Desktop/nodejs$ ls -l
total 1492
-rw-rw-r-- 1 osboxes osboxes 140752 Feb 19 11:06 checkstatuslog.txt
-rwxrwxr-x 1 osboxes osboxes 127 Feb 19 11:02 checkstatus.sh
-rw-rw-r-- 1 osboxes osboxes 140946 Feb 19 11:06 deploylog.txt
-rwxrwxr-x 1 osboxes osboxes 166 Feb 19 11:05 deploy.sh
-rw-rw-r-- 1 osboxes osboxes 814 Feb 19 09:49 package.json
-rw-rw-r-- 1 osboxes osboxes 1206625 Feb 19 09:49 package-lock.json
drwxrwxr-x 3 osboxes osboxes 4096 Feb 19 09:49 public
-rw-rw-r-- 1 osboxes osboxes 3359 Feb 19 09:49 README.md
-rw-rw-r-- 1 osboxes osboxes 1246 Feb 19 10:54 requirements.txt
drwxrwxr-x 3 osboxes osboxes 4096 Feb 19 09:49 src
-rw-rw-r-- 1 osboxes osboxes 9 Feb 19 11:03 test.sh
osboxes@osboxes:~/Desktop/nodejs$ nano checkstatus.sh
osboxes@osboxes:~/Desktop/nodejs$ cat checkstatus.sh
#!/bin/bash

if pgrep -f "python app.py" >/dev/null ;then
    echo "Flask is running"
else
    echo "Flask is not running"
fi

osboxes@osboxes:~/Desktop/nodejs$ chmod +x checkstatus.sh
osboxes@osboxes:~/Desktop/nodejs$ ls -l
total 1588
-rw-rw-r-- 1 osboxes osboxes 150445 Feb 19 11:07 checkstatuslog.txt
-rwxrwxr-x 1 osboxes osboxes 125 Feb 19 11:07 checkstatus.sh
-rw-rw-r-- 1 osboxes osboxes 150639 Feb 19 11:07 deploylog.txt
-rwxrwxr-x 1 osboxes osboxes 166 Feb 19 11:05 deploy.sh
-rw-rw-r-- 1 osboxes osboxes 814 Feb 19 09:49 package.json
-rw-rw-r-- 1 osboxes osboxes 1206625 Feb 19 09:49 package-lock.json
drwxrwxr-x 3 osboxes osboxes 4096 Feb 19 09:49 public
```

```
osboxes@osboxes: ~/Desktop/nodejs/nodejs

drwxrwxr-x 59 osboxes osboxes 4096 Feb 19 02:54 node_modules
-rw-rw-r-- 1 osboxes osboxes 270 Feb 19 02:54 package.json
-rw-rw-r-- 1 osboxes osboxes 17988 Feb 19 02:54 package-lock.json
-rw-rw-r-- 1 osboxes osboxes 0 Feb 19 02:56 test.sh
osboxes@osboxes:~/Desktop/nodejs/nodejs$ cat deploylog.txt
Already up to date.
Requirement already satisfied: click==8.0.3 in /home/osboxes/.local/lib/python3.8/site-packages (from -r requirements.txt (line 1)) (8.0.3)
Requirement already satisfied: Flask==2.0.2 in /home/osboxes/.local/lib/python3.8/site-packages (from -r requirements.txt (line 2)) (2.0.2)
Requirement already satisfied: itsdangerous==2.0.1 in /home/osboxes/.local/lib/python3.8/site-packages (from -r requirements.txt (line 3)) (2.0.1)
Requirement already satisfied: Jinja2==3.0.2 in /home/osboxes/.local/lib/python3.8/site-packages (from -r requirements.txt (line 4)) (3.0.2)
Requirement already satisfied: MarkupSafe==2.0.1 in /home/osboxes/.local/lib/python3.8/site-packages (from -r requirements.txt (line 5)) (2.0.1)
Requirement already satisfied: Werkzeug==2.0.2 in /home/osboxes/.local/lib/python3.8/site-packages (from -r requirements.txt (line 6)) (2.0.2)
grep: python3 app.py: No such file or directory
* Serving Flask app 'app' (lazy loading)
* Environment: production
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Debug mode: on
Traceback (most recent call last):
  File "app.py", line 11, in <module>
    app.run(host='0.0.0.0', port = 5001, debug = True)
  File "/home/osboxes/.local/lib/python3.8/site-packages/Flask/app.py", line 920, in run
    run_simple(t.cast(str, host), port, self, **options)
  File "/home/osboxes/.local/lib/python3.8/site-packages/werkzeug/serving.py", line 984, in run_simple
    s.bind(server_address)
OSError: [Errno 98] Address already in use
osboxes@osboxes:~/Desktop/nodejs/nodejs$ cat checkstatuslog.txt
cat: checkstatuslog.txt: No such file or directory
osboxes@osboxes:~/Desktop/nodejs/nodejs$ cat checkstatuslog.txt
Flask Server is running
```