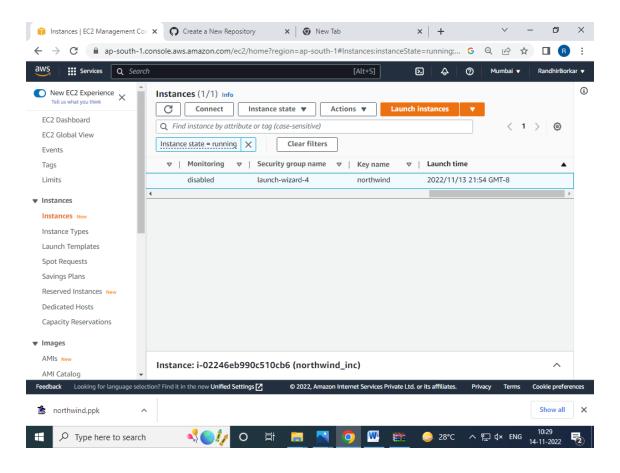
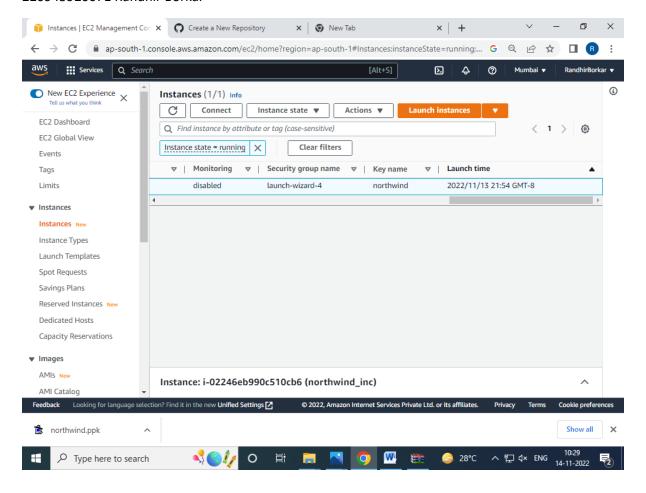
SDM PRACTIACL EXAM (SET 3) 220945920071 Randhir Borkar

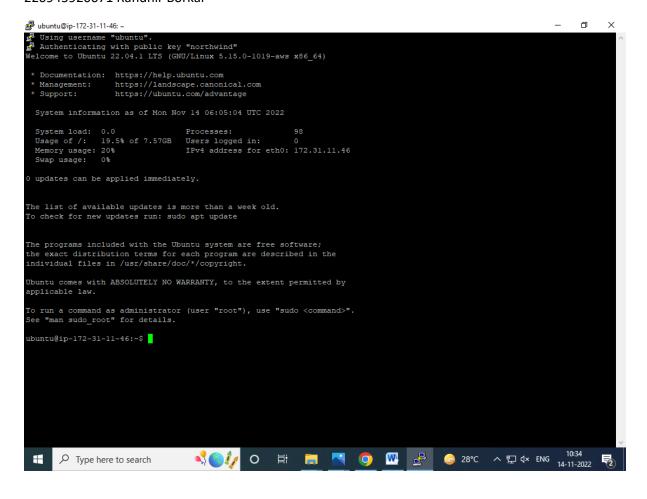
1. Create one virtual machine EC2 instance using AWS (named northwind_inc)



Second screenshot of timing (timing is already wrong and preseted to 2022/11/13 21:54 GMT-8 and can't change during exam)



Putty started



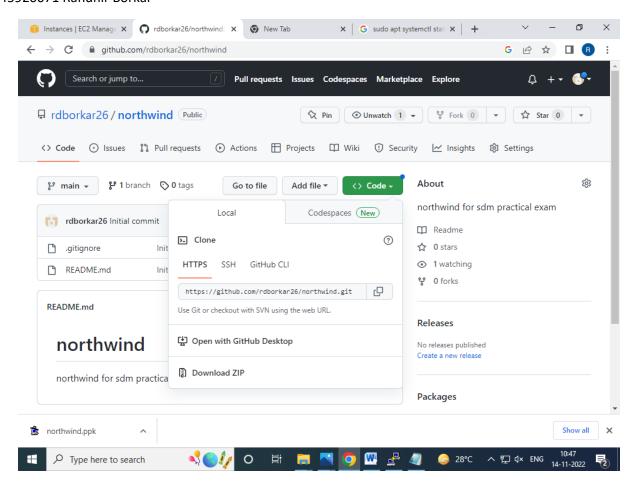
2. Installing docker engine to newly created ec2 instance Installing docker

Checking docker status

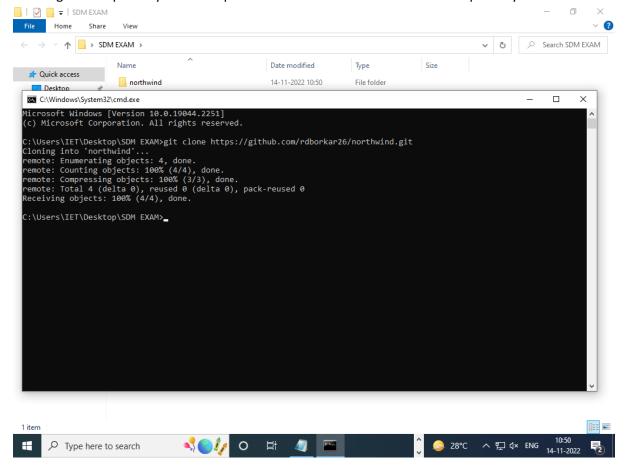
```
₽ ubuntu@ip-172-31-11-46: ~
                                                                                                                                                                                                                                                                                                                                                                                 ₽
  Adding group 'docker' (GID 121)
  Created symlink /etc/systemd/system/multi-user.target.wants/docker.service -/lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket -/lib/systemd/system/docker.socket.
 Processing triggers for dbus (1.12.20-2ubuntu4) ...
Processing triggers for man-db (2.10.2-1) ...
 Scanning processes...
Scanning linux images...
 Running kernel seems to be up-to-date.
  No services need to be restarted.
No containers need to be restarted.
 No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-11-46:~$ sudo apt systemctl status docker
E: Invalid operation systemctl
ubuntu@ip-172-31-11-46:~$ sudo systemctl status docker

• docker.service - Docker Application Container Engine
              Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled) Active: active (running) since Mon 2022-11-14 06:07:29 UTC; 4min 17s ago
                    Docs: https://docs.docker.com
         Main PID: 2172 (dockerd)
Tasks: 7
               Memory: 37.4M
CPU: 268ms
                CGroup: /system.slice/docker.service L2172 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
 Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.4479469092" level=info msg="scheme \"unix\" not reg>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.4481164062" level=info msg="ccResolverWrapper: send>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.4482763512" level=info msg="ClientConn switching ba>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.5063631592" level=info msg="Loading containers: sta>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.7254513332" level=info msg="Default bridge (dockero)>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.8264451452" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Docker daemon" commit=2>
          14 06:07:29 ip-172-31-11-46 systemd[1]: Started Docker Application Container Engine.
14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.943623641Z" level=info msg="API listen on /run/dock
 lines 1-22/22 (END)
                                                                                                                                                               닭 🧱 🤼 🧿 ₩ 👺 🐠 👶 28℃ ∧ ټ ᡧ ENG 10-41
                                                                                                                                                  0
```

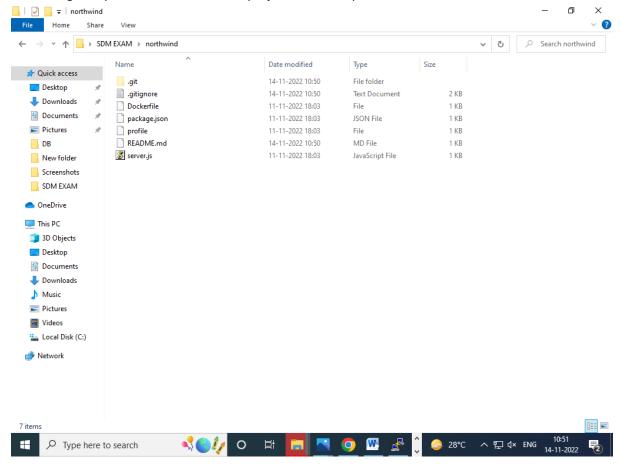
3. Creating github repository named northwind



4. Creating local depository on developers machine to clone northwind code repository



5.0 adding files provided for northwind project on developers machine



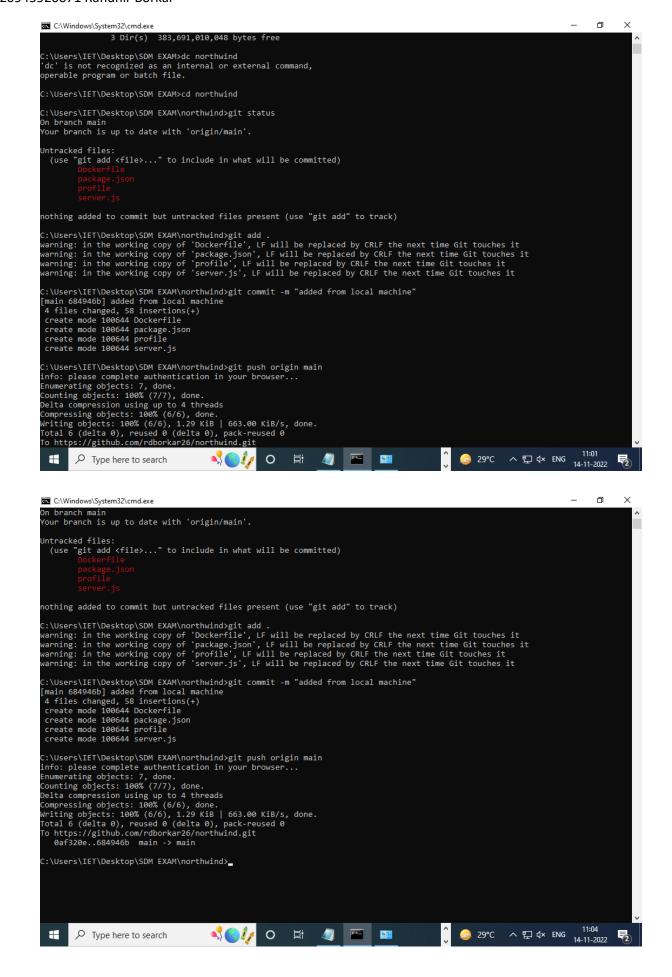
6.Adding docker file

```
₫
C:\Windows\System32\cmd.exe
                                  3 Dir(s) 383,691,010,048 bytes free
C:\Users\IET\Desktop\SDM EXAM>dc northwind
'dc' is not recognized as an internal or external command,
operable program or batch file.
 C:\Users\IET\Desktop\SDM EXAM>cd northwind
C:\Users\IET\Desktop\SDM EXAM\northwind>git status
On branch main
 Your branch is up to date with 'origin/main'.
Untracked files:
(use "git add <file>..." to include in what will be committed)
nothing added to commit but untracked files present (use "git add" to track)
C:\Users\IET\Desktop\SDM EXAM\northwind>git add .
warning: in the working copy of 'Dockerfile', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'package.json', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'profile', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'server.js', LF will be replaced by CRLF the next time Git touches it
C:\Users\IET\Desktop\SDM EXAM\northwind>git commit -m "added from local machine"
[main 684946b] added from local machine
4 files changed, 58 insertions(+)
create mode 100644 Dockerfile
create mode 100644 package.json
create mode 100644 profile
create mode 100644 profile
create mode 100644 create is
  create mode 100644 server.js
C:\Users\IET\Desktop\SDM EXAM\northwind>git push origin main info: please complete authentication in your browser...
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.29 KiB | 663.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/rdborkar26/northwind.git
                                                                                                                                                                                                            29°C ヘ 口 4× ENG 11:01 14-11-2022
               0
                                                                                                                          Ħŧ
```

7.0 commiting all added files

```
₽
C:\Windows\System32\cmd.exe
                                  3 Dir(s) 383,691,010,048 bytes free
C:\Users\IET\Desktop\SDM EXAM>dc northwind
'dc' is not recognized as an internal or external command,
operable program or batch file.
 C:\Users\IET\Desktop\SDM EXAM>cd northwind
 C:\Users\IET\Desktop\SDM EXAM\northwind>git status
 Your branch is up to date with 'origin/main'.
 Jntracked files:
(use "git add <file>..." to include in what will be committed)
 nothing added to commit but untracked files present (use "git add" to track)
C:\Users\IET\Desktop\SDM EXAM\northwind>git add .
warning: in the working copy of 'Dockerfile', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'package.json', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'profile', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'server.js', LF will be replaced by CRLF the next time Git touches it
C:\Users\IET\Desktop\SDM EXAM\northwind>git commit -m "added from local machine"
[main 684946b] added from local machine
4 files changed, 58 insertions(+)
create mode 100644 Dockerfile
create mode 100644 package.json
create mode 100644 profile
create mode 100644 server.js
C:\Users\IET\Desktop\SDM EXAM\northwind>git push origin main info: please complete authentication in your browser...
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.29 KiB | 663.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/rdborkar26/northwind.git
                                                                                                                                                                                                        П
              0
```

8. pushing changer to github repository



9. Installing git to EC2 instance

```
🚜 ubuntu@ip-172-31-11-46: -
                                                                                                                                                                                                                                                                                                                                                             ₽
                                        	ilde{	t L}_{2172} /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.4479469092" level=info msg="scheme \"unix\" not rego Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.4481164062" level=info msg="ccResolverWrapper: send>Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.5063631592" level=info msg="ClientConn switching bab Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.5063631592" level=info msg="Loading containers: stab Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.7254513332" level=info msg="Default bridge (docker0) Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.8264451452" level=info msg="Default bridge (docker0) Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Decker deemon" commit=2> Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9082078962" level=info msg="Deemon has completed in Nov 14 06:07:29 ip-172-31-11-46 systemd[1]: Started Docker Application Container Engine.

Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.9436236412" level=info msg="API listen on /run/dock_bubuntu@ip-172-31-11-46:~$ git --version git version 2.34.1
  git version 2.34.1
abuntu@ip-172-31-11-46:~$ sudo apt install git
 Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
   git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following packages will be upgraded:
git
1 upgraded, 0 newly installed, 0 to remove and 78 not upgraded.
Need to get 3132 kB of archives.
After this operation, 0 B of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 git amd64 1:2.34.1-lubuntu1.5 [3132 kB]
Fetched 3132 kB in 1s (5413 kB/s)
(Reading database ... 64017 files and directories currently installed.)
Preparing to unpack .../git_1%3a2.34.1-lubuntu1.5_amd64.deb ...
Unpacking git (1:2.34.1-lubuntu1.5) over (1:2.34.1-lubuntu1.4) ...
Setting up git (1:2.34.1-lubuntu1.5) ...
  Scanning linux images...
 Running kernel seems to be up-to-date.
 No services need to be restarted.
 No containers need to be restarted.
 No user sessions are running outdated binaries.
 No VM guests are running outdated hypervisor (qemu) binaries on this host. ubuntu@ip-172-31-11-46:~$
                                                                                                                                                                                                                                                                      📑 🔚 🔼 🧿 👭 🛃
   0
```

10. clone code repository of northwind to ec2 instance

```
₽

■ ubuntu@ip-172-31-11-46: ~/northwind

Nov 14 06:07:29 ip-172-31-11-46 systemd[1]: Started Docker Application Container Engine.

Nov 14 06:07:29 ip-172-31-11-46 dockerd[2172]: time="2022-11-14T06:07:29.943623641Z" level=info msg="API listen on /run/docks/ubuntu@ip-172-31-11-46:~$ git --version
git version 2.34.1
ydt verdin 2.37.1
ubuntu@ip-172-31-11-46:~$ sudo apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following packages will be upgraded:
upgraded, 0 newly installed, 0 to remove and 78 not upgraded.
Need to get 3132 kB of archives.
Need to get 3132 kB of archives.

After this operation, 0 B of additional disk space will be used.

Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 git amd64 1:2.34.1-lubuntu1.5 [3132 kB]

Fetched 3132 kB in 1s (5413 kB/s)

(Reading database ... 64017 files and directories currently installed.)

Preparing to unpack .../git_l%3a2.34.1-lubuntu1.5_amd64.deb ...

Unpacking git (1:2.34.1-lubuntu1.5) over (1:2.34.1-lubuntu1.4) ...

Setting up git (1:2.34.1-lubuntu1.5) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No VM guests are running outdated hypervisor (qemu) binaries on this host. ubuntu@ip-172-31-11-46:~$ git clone https://github.com/rdborkar26/northwind.git Cloning into 'northwind'...
 remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0
Receiving objects: 100% (10/10), done.
ubuntu@ip-172-31-11-46:~$ 1s
 ubuntu@ip-172-31-11-46:~$ cd northwind
 ubuntu@ip-172-31-11-46:~/northwind$
                                                                     П
```

11. creating docker container images for northwind cloned repository in EC2 instance

```
### After this operation, 0 8 of additional disk space will be used.

Get:1 http://sp-south-1.ec2.archive.ubuntu.com/ubuntu.jammy-updates/main amd64 git amd64 1:2.34.1-lubuntul.5 [3132 kB]

Ferched 3132 kB in 1s (5818 kB/s)

(Reading database ... 64017 files and directories currently installed.)

Frequenting to unpack ... /411.1932.234.1-lubuntul.5 amd64.de ...

Unpacking git (1:2.34.1-lubuntul.5) over (1:2.34.1-lubuntul.4) ...

Seating up git (1:2.34.1-lubuntul.5) over (1:2.34.1-lubuntul.4) ...

Seating up git (1:2.34.1-lubuntul.5) ...

Seaning processes...

Seaning processes...

Seaning processes...

Running kernel seems to be up-to-date.

No services need to be restarted.

No user sessions are running outdated binaries.

No VM gueste are running outdated binaries.

No VM gueste are running outdated binaries.

No VM gueste are running outdated byservisor (qemu) binaries on this host.

ubuntu%19-17-23.1-11-64.-6 git clone https://github.com/rdborkar26/northwind.git

Cloning into 'northwind' remote Competes 100 (00) (00) one.

remote: Counting objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0

Receiving objects: 1004 (10/10), done.

remote: Total 10 (delta 0), r
```

12. listing down the docker container images in EC2 instance

```
₱ ubuntu@ip-172-31-11-46: ~/northwind

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                           untwip-1/2-31-11-40: /northwind

- proxy-addr@2.0.7

+-- forwarded@0.2.0

--- ipaddr.js@1.9.1

- qs@6.11.0

--- side-channel@1.0.4

+-- call-bind@1.0.2

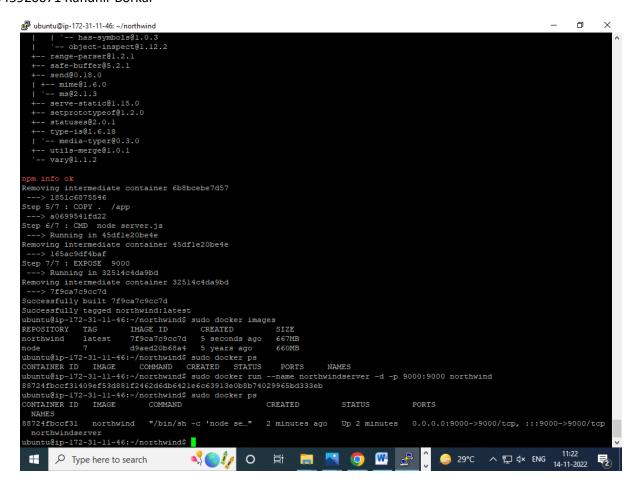
| '-- function-bind@1.1.1
             | -- Interior -- I
                       -- sare-burrergs.2.1
-- send@0.18.0
+-- mime@1.6.0
`-- ms@2.1.3
-- serve-static@1.15.0
               +-- setprototypeof@1.2.0
+-- statuses@2.0.1
            +-- statuses@2.0.1
+-- type-is@1.6.18
| `-- media-typer@0.3.0
+-- utils-merge@1.0.1
`-- vary@1.1.2
           emoving intermediate container 6b8bcebe7d57
---> 1851c6875546
      Step 5/7 : COPY . /app
---> a0699541fd22
  ---> a0699541fd22
Step 6/7: CMD node server.js
---> Running in 45dfle20be4e
Removing intermediate container 45dfle20be4e
---> 165ac9df4baf
Step 7/7: EXPOSE 9000
---> Running in 32514c4da9bd
Removing intermediate container 32514c4da9bd
                       -> 7f9ca7c9cc7d
---> /190a/09cc/d
Successfully built 7f9ca7c9cc7d
Successfully tagged northwind:latest
ubuntu@ip-172-31-11-46:~/northwind$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED S
northwind latest 7f9ca7c9cc7d 5 seconds ago 6
  node 7 d9aed20b68a4 5 years ago
ubuntu@ip-172-31-11-46:~/northwind$
                                                                                                                                                                                                                                                                                                                                                                   660MB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 29℃ ヘ駅 (* ENG 11:13
| 14-11-2022
                                                                                                                                                                                                                                                                                                                                                                                        {\cal P} Type here to search
                                                                                                                                                                                                                                                                                                                     0
        ₹2
```

13. running docker container images to launch instance of container

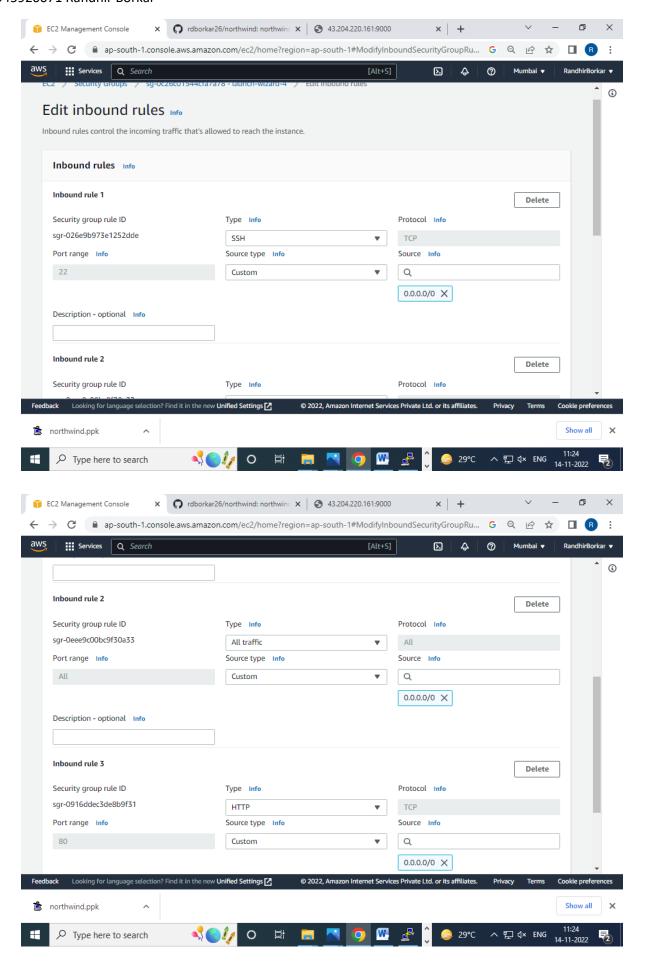
```
# chuntu@ip-172-31-11-46-/northwind

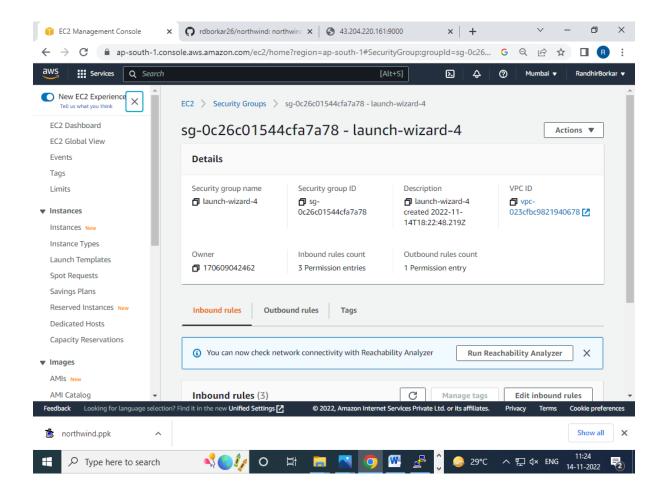
- # Side-channes[81.0.4
+ -- call-bind@1.0.2
| | --- function-bind@1.1.1
| +-- has-symbols@1.0.3
| | --- bhs@1.0.3
| |
```

14. listing down container instance using docker in EC2 instance



15. enable all traffic from anywhere by setting inbound rule of security group assigned to EC2 instance





16. invoking url of northwind portal from chrome browser

