

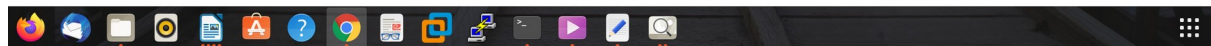
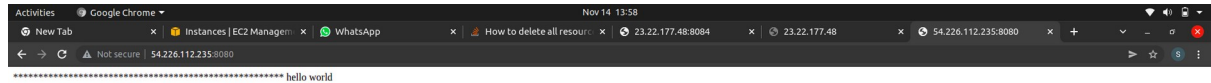
Assessment 2

Submitted by

Senjila s

1] Configure 2 container , on one Backend container [database server] and other frontend container web server through which you should access backend container , give volume of your docker hosts to avoid loss of data

Solution:



```
Activities Terminal Nov 14 14:33
root@ip-172-31-25-246:~

root@master2:~ root@del1-lhp-n77160: /home/senjila.s root@del1-lhp-n77160: /home/senjila.s root@ip-172-31-25-246:~

[root@master ~]# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
91bea2db8b1b   backend:v1    "docker-entrypoint..." 23 minutes ago Up 23 minutes 33060/tcp, 0.0.0.0:3309->3306/tcp   back
64135ba2a622   frontend:v1   "httpd -D FOREGROUND"    39 minutes ago Up 39 minutes 0.0.0.0:8080->80/tcp              front

[root@master ~]# docker volume ls
DRIVER        VOLUME NAME
local        bc87991e42e294176b5012f5b9c31524ce010a1c5f0c3f7408af631367001c30
local        vol1
```

```
Nov 14 13:52
root@ip-172-31-25-246:~

root@master2:~
root@del1-lhp-n77160: /home/senjlila.s
root@del1-lhp-n77160: /home/senjlila.s
root@ip-172-31-25-246:~

"cpuPercent": 0,
"IOMaxInumIOps": 0,
"IOMaxInumBandwidth": 0
},
"GraphDriver": {
  "Name": "overlay2",
  "Data": {
    "LowerDir": "/var/lib/docker/overlay2/c68cd02a0b8db55d9088c68bef784282c16a24b0a8a4b91b74e43ac1e51a7a6:/var/lib/docker/overlay2/a0718112fd61e41c7ef2ef6945a1ab7d4f4a167dd357213f93a47f8218e509/diff:/var/lib/docker/overlay2/c12179df77c5318ceaf4954c119927b1a8010a40d6d2171f608be504f36fae18/diff:/var/lib/docker/overlay2/936f00a0b1f2e61ab87861a4598d3367c0c965e2f3b1a4e48e4594d25d5fcsj/diff:/var/lib/docker/overlay2/d1e2b28c28f4dd7ab70caddb289c6a425f986c8ed76cf3f9f3a26e21b977/diff:/var/lib/docker/overlay2/1acba74fc10367f0fd7254cb543cdc90f9360724309b988351fa66c584e9e0c/diff:/var/lib/docker/overlay2/9f9b22c80511489f081377f72a00ebcedc4e908b11230433ab4b39ac5c6ba/diff:/var/lib/docker/overlay2/0403733d3cc95727ff4946dc90239ab60719599d1bd308cb3be0f1b1e4088bej/diff:/var/lib/docker/overlay2/670ef069f8b5bd82eb65026c729673399d6a39db02c720d9f23dcb0a35b155/diff",
    "MergedDir": "/var/lib/docker/overlay2/c68cd02a0b8db55d9088c68bef784282c16a24b0a8a4b91b74e43ac1e51a7a6/merged",
    "UpperDir": "/var/lib/docker/overlay2/c68cd02a0b8db55d9088c68bef784282c16a24b0a8a4b91b74e43ac1e51a7a6/diff",
    "WorkDir": "/var/lib/docker/overlay2/c68cd02a0b8db55d9088c68bef784282c16a24b0a8a4b91b74e43ac1e51a7a6/work"
  }
},
"Mounts": [
  {
    "Type": "volume",
    "Name": "vol1",
    "Source": "/var/lib/docker/volumes/vol1/_data",
    "Destination": "/var/www/html",
    "Driver": "local",
    "Mode": "rw",
    "RW": true,
    "Propagation": ""
  }
],
"Config": {
  "Hostname": "64135ba2a022",
  "Domainname": "",
  "User": "",
  "AttachStdin": false,
  "AttachStdout": false,
  "AttachStderr": false,
  "ExposedPorts": {
    "80/tcp": {}
  },
  "Tty": false,
  "OpenStdin": false,
  "StdinOnce": false,
  "Env": [
    "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
  ],
  "Cmd": [
    "httpd",
    "-D",
    "FOREGROUND"
  ]
}
```

```
Nov 14 14:29
Name: pinky 1
Name: rami 2
Name: bami 3
Name: hami 4
Name: paras 5
Name: pari 6

root@ip-172-31-25-246:~

Bye
root@91bea2db8b1b:~# exit
exit
[root@master ~]# docker inspect backlgrep -t ipaddr
[{"SecondaryIPAddresses": null,
  "IPAddress": "172.17.0.3",
  "IP": "172.17.0.3"}]
[root@master ~]# docker exec -it back bash
root@91bea2db8b1b:~# ls
bin dev entrypoint.sh home lib64 mnt proc run srv tmp var
boot docker-entrypoint-initdb.d etc lib media opt root sbin sys usr
root@91bea2db8b1b:~# cd var
root@91bea2db8b1b:var# cd www
bash: cd: www: No such file or directory
root@91bea2db8b1b:var# ls
backups cache lib local lock log mail opt run spool tmp
root@91bea2db8b1b:var# cd lib
root@91bea2db8b1b:var/lib# ls
apt dpkg mecab misc mysql pam systemd
root@91bea2db8b1b:var/lib# exit
exit
[root@master ~]# docker exec -it front bash
[root@64135ba2a022 ~]# cd /var/www/
[root@64135ba2a022 www]# ls
api.php front
[root@64135ba2a022 www]# cd html
[root@64135ba2a022 html]# ls
index.php
[root@64135ba2a022 html]# vi index.php
[root@64135ba2a022 html]# exit
exit
[root@master ~]# docker exec -it back bash
root@91bea2db8b1b:~# mysql -u root -p
Enter password:
```

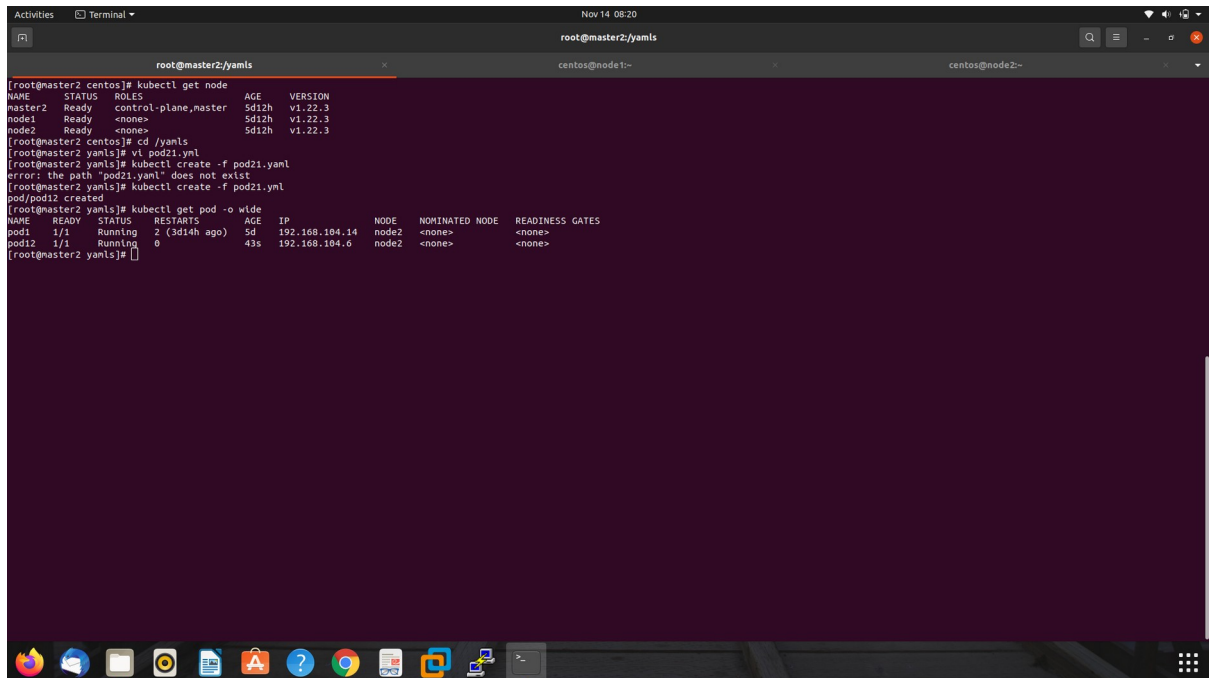
2]On kubernetes cluster configure POD and deployment with imperative and declarative method

Assign label to your POD , show auto healing ,auto scaling
screenshot , assign NodePort to your pod

Access it through public browser

solution:

kubernetes cluster configure



The screenshot shows a terminal window with three tabs: 'root@master2:/yaml1', 'centos@node1:~', and 'centos@node2:~'. The active tab is 'root@master2:/yaml1'. The terminal output shows the following commands and results:

```
[root@master2 centos]# kubectl get node
NAME          STATUS    ROLES    AGE   VERSION
master2       Ready     control-plane,master   5d12h   v1.22.3
node1         Ready     <none>    5d12h   v1.22.3
node2         Ready     <none>    5d12h   v1.22.3

[root@master2 centos]# cd /yaml1
[root@master2 yaml1]# vi pod21.yaml
[root@master2 yaml1]# kubectl create -f pod21.yaml
error: the path "pod21.yaml" does not exist
[root@master2 yaml1]# kubectl create -f pod21.yaml
pod/pod12 created

[root@master2 yaml1]# kubectl get pod -o wide
NAME    READY   STATUS    RESTARTS   AGE   IP            NODE    NOMINATED NODE   READINESS GATES
pod1    1/1     Running   2 (3d14h ago)   5d    192.168.104.14   node2    <none>            <none>
pod12   1/1     Running   0              43s   192.168.104.6   node2    <none>            <none>
```

```
Activities Terminal Nov 14 08:40
root@master2:/yaml1
root@master2:/yaml1
[centos@node1:~]$
[centos@node2:~]$

[root@master2 centos]# kubectl get node
NAME      STATUS    ROLES    AGE   VERSION
master2   Ready     control-plane,master   5d12h   v1.22.3
node1     Ready     <none>    5d12h   v1.22.3
node2     Ready     <none>    5d12h   v1.22.3

[root@master2 centos]# cd /yaml1
[root@master2 /yaml1]# vi pod21.yaml
[root@master2 /yaml1]# kubectl create -f pod21.yaml
error: the path "pod21.yaml" does not exist
[root@master2 /yaml1]# kubectl create -f pod21.yaml
pod/pod12 created
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           43s   192.108.104.6 node2      <none>           <none>
[root@master2 /yaml1]# kubectl create pod pod13 --image=httpd
Error: unknown flag: --image
See 'kubectl create --help' for usage.
[root@master2 /yaml1]# kubectl run pod13 --image=httpd
pod/pod13 created
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           10m   192.168.104.6 node2      <none>           <none>
pod13     1/1     Running   0           2m49s 192.168.104.21 node2      <none>           <none>
[root@master2 /yaml1]# kubectl create deployment app12 --image=httpd
deployment.apps/app12 created
[root@master2 /yaml1]# ku
bash: ku: command not found
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
app12-7fcd88fb4-lc5z4 1/1     Running   0           2m20s 192.168.104.15 node2      <none>           <none>
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           19m   192.168.104.6 node2      <none>           <none>
pod13     1/1     Running   0           11m   192.168.104.21 node2      <none>           <none>
[root@master2 /yaml1]#
```

Assign label to your POD , show auto healing ,auto scaling screenshot

```
Activities Terminal Nov 14 08:46
root@master2:/yaml1
root@master2:/yaml1
[centos@node1:~]$
[centos@node2:~]$

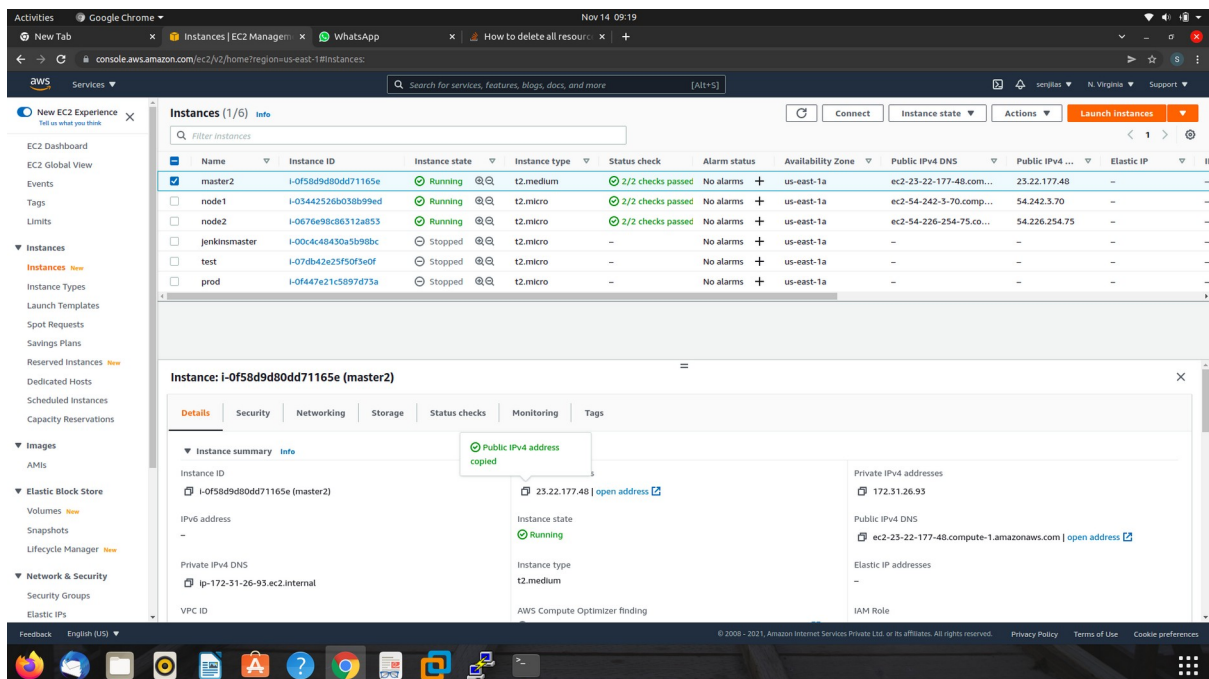
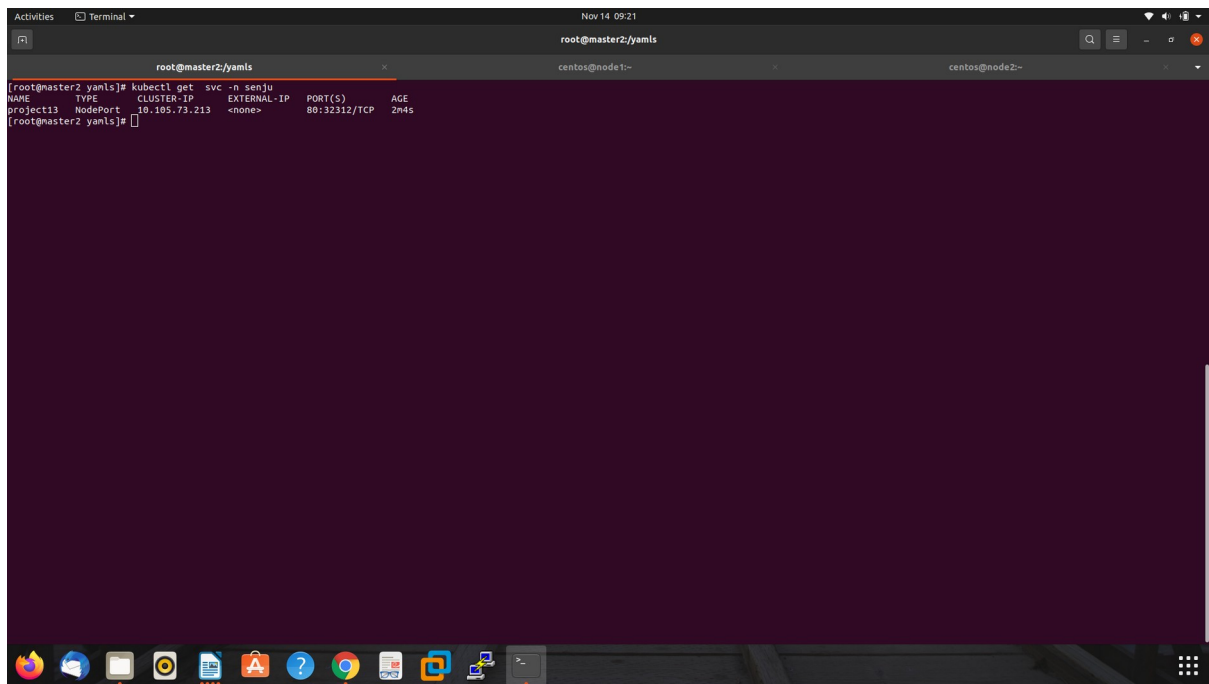
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           43s   192.108.104.6 node2      <none>           <none>
[root@master2 /yaml1]# kubectl create pod pod13 --image=httpd
Error: unknown flag: --image
See 'kubectl create --help' for usage.
[root@master2 /yaml1]# kubectl run pod13 --image=httpd
pod/pod13 created
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           10m   192.168.104.6 node2      <none>           <none>
pod13     1/1     Running   0           2m49s 192.168.104.21 node2      <none>           <none>
[root@master2 /yaml1]# kubectl create deployment app12 --image=httpd
deployment.apps/app12 created
[root@master2 /yaml1]# ku
bash: ku: command not found
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
app12-7fcd88fb4-lc5z4 1/1     Running   0           2m20s 192.168.104.15 node2      <none>           <none>
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           19m   192.168.104.6 node2      <none>           <none>
pod13     1/1     Running   0           11m   192.168.104.21 node2      <none>           <none>
[root@master2 /yaml1]# kubectl run pod4 --image=httpd --labels=dish=tea
pod/pod4 created
[root@master2 /yaml1]# kubectl run pod5 --image=httpd --labels=dish=mltk
pod/pod5 created
[root@master2 /yaml1]# kubectl run pod6 --image=httpd --labels=dish=mltk
pod/pod6 created
[root@master2 /yaml1]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP            NODE      NOMINATED NODE   READINESS GATES
app12-7fcd88fb4-lc5z4 1/1     Running   0           8m46s 192.168.104.15 node2      <none>           <none>
pod1      1/1     Running   2 (3d14h ago)    5d    192.168.104.14 node2      <none>           <none>
pod12     1/1     Running   0           26m   192.168.104.6 node2      <none>           <none>
pod13     1/1     Running   0           18m   192.168.104.21 node2      <none>           <none>
pod4      1/1     Running   0           3m32s 192.168.104.19 node2      <none>           <none>
pod5      1/1     Running   0           2m49s 192.168.104.16 node2      <none>           <none>
pod6      1/1     Running   0           15s    192.168.104.24 node2      <none>           <none>
[root@master2 /yaml1]# kubectl get pods --show-labels
NAME      READY   STATUS    RESTARTS   AGE   LABELS
app12-7fcd88fb4-lc5z4 1/1     Running   0           9m6s   app=app12,pod-template-hash=7fcd88fb4
pod1      1/1     Running   2 (3d14h ago)    5d    dish=mango,disk=ssdtype
pod12     1/1     Running   0           26m   dish=mango,disk=ssdtype
pod13     1/1     Running   0           18m   run=pod13
pod4      1/1     Running   0           3m32s   dish=tea
pod5      1/1     Running   0           3m9s    dish=mltk
pod6      1/1     Running   0           35s    dish=mltk
[root@master2 /yaml1]#
```

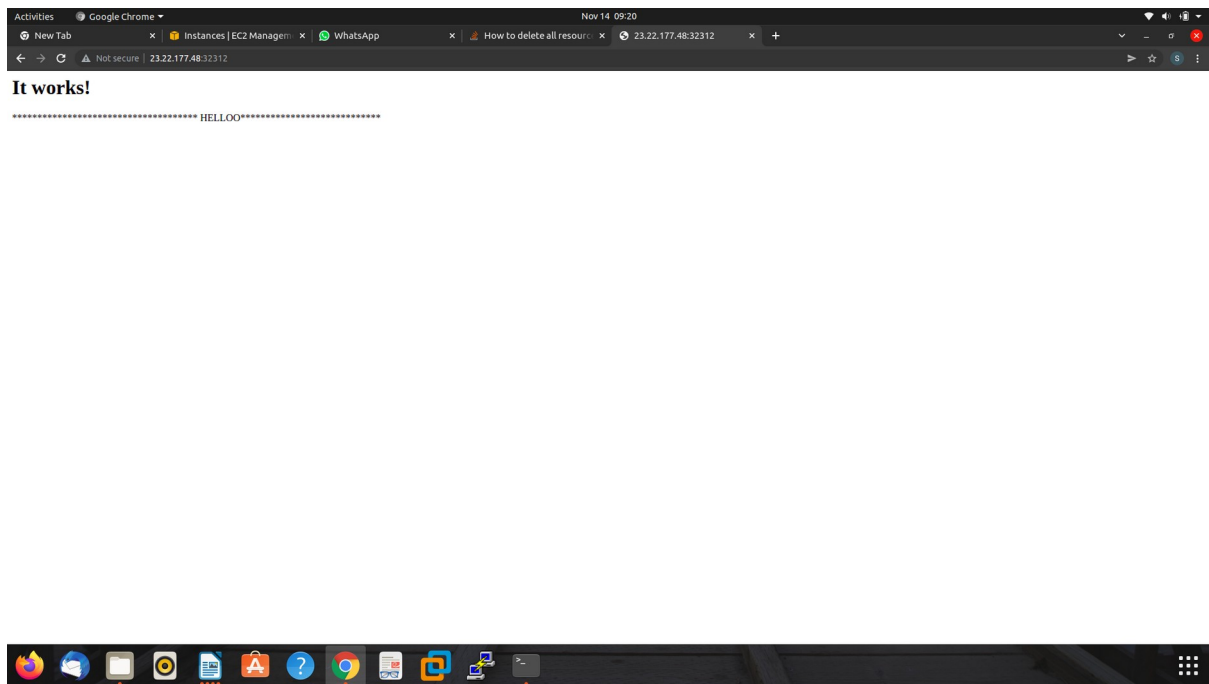
```
Activities Terminal Nov 14 08:58
root@master2:/ymls centos@node1:~ centos@node2:~

[root@master2 ymls]# kubectl get pod
NAME          READY   STATUS    RESTARTS   AGE
app12-7fcd88fbd4-lc5z4 1/1     Running   0           19m
pod1          1/1     Running   2 (3d15h ago) 5d
pod12         1/1     Running   0           37m
pod13         1/1     Running   0           29m
pod4          1/1     Running   0           14m
pod5          1/1     Running   0           13m
pod6          1/1     Running   0           11m
[root@master2 ymls]# kubectl delete pod app12-7fcd88fbd4-lc5z4
pod "app12-7fcd88fbd4-lc5z4" deleted
[root@master2 ymls]# kubectl get pod
NAME          READY   STATUS    RESTARTS   AGE
app12-7fcd88fbd4-slhgf 1/1     Running   0           7s
pod1          1/1     Running   2 (3d15h ago) 5d
pod12         1/1     Running   0           37m
pod13         1/1     Running   0           30m
pod4          1/1     Running   0           14m
pod5          1/1     Running   0           14m
pod6          1/1     Running   0           11m
[root@master2 ymls]#
```

```
Activities Terminal Nov 14 09:00
root@master2:/ymls centos@node1:~ centos@node2:~

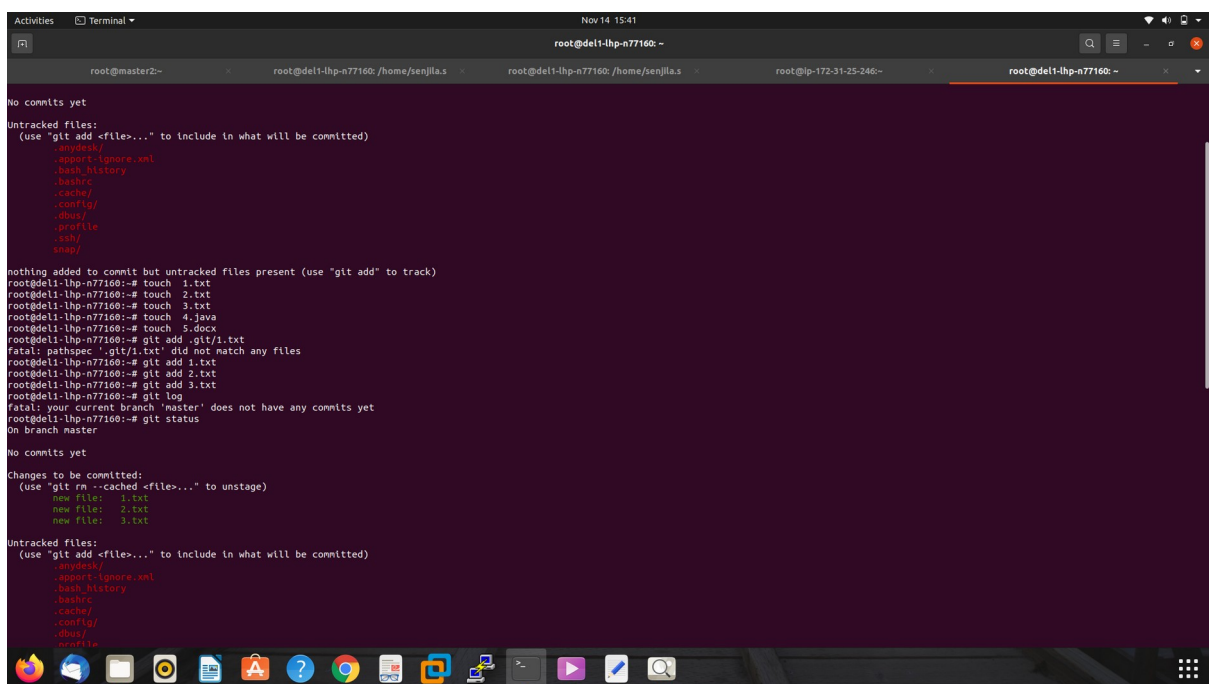
[root@master2 ymls]# kubectl get pod
NAME          READY   STATUS    RESTARTS   AGE
app12-7fcd88fbd4-lc5z4 1/1     Running   0           19m
pod1          1/1     Running   2 (3d15h ago) 5d
pod12         1/1     Running   0           37m
pod13         1/1     Running   0           29m
pod4          1/1     Running   0           14m
pod5          1/1     Running   0           13m
pod6          1/1     Running   0           11m
[root@master2 ymls]# kubectl delete pod app12-7fcd88fbd4-lc5z4
pod "app12-7fcd88fbd4-lc5z4" deleted
[root@master2 ymls]# kubectl get pod
NAME          READY   STATUS    RESTARTS   AGE
app12-7fcd88fbd4-slhgf 1/1     Running   0           7s
pod1          1/1     Running   2 (3d15h ago) 5d
pod12         1/1     Running   0           37m
pod13         1/1     Running   0           30m
pod4          1/1     Running   0           14m
pod5          1/1     Running   0           14m
pod6          1/1     Running   0           11m
[root@master2 ymls]# kubectl scale deployment/app1 --replicas=4
Error from server (NotFound): deployments.apps "app1" not found
[root@master2 ymls]# kubectl scale deployment/app12 --replicas=4
deployment.apps/app12 scaled
[root@master2 ymls]# kubectl get pod
NAME          READY   STATUS    RESTARTS   AGE
app12-7fcd88fbd4-s8sgl 1/1     Running   0           5s
app12-7fcd88fbd4-slhgf 1/1     Running   0           97s
app12-7fcd88fbd4-74d2s 1/1     Running   0           5s
app12-7fcd88fbd4-shqd5 1/1     Running   0           5s
pod1          1/1     Running   2 (3d15h ago) 5d
pod12         1/1     Running   0           39m
pod13         1/1     Running   0           31m
pod4          1/1     Running   0           16m
pod5          1/1     Running   0           15m
pod6          1/1     Running   0           13m
[root@master2 ymls]# kubectl get pod -o wide
NAME          READY   STATUS    RESTARTS   AGE   IP            NODE      NOKINATED NODE  READINESS GATES
app12-7fcd88fbd4-s8sgl 1/1     Running   0           26s   192.168.104.26 node2     <none>      <none>
app12-7fcd88fbd4-slhgf 1/1     Running   0          118s   192.168.104.29 node2     <none>      <none>
app12-7fcd88fbd4-74d2s 1/1     Running   0           26s   192.168.104.22 node2     <none>      <none>
app12-7fcd88fbd4-shqd5 1/1     Running   0           26s   192.168.104.20 node2     <none>      <none>
pod1          1/1     Running   2 (3d15h ago) 5d    192.168.104.14 node2     <none>      <none>
pod12         1/1     Running   0           39m   192.168.104.6  node2     <none>      <none>
pod13         1/1     Running   0           31m   192.168.104.21 node2     <none>      <none>
pod4          1/1     Running   0           16m   192.168.104.19 node2     <none>      <none>
pod5          1/1     Running   0           16m   192.168.104.16 node2     <none>      <none>
pod6          1/1     Running   0           13m   192.168.104.24 node2     <none>      <none>
[root@master2 ymls]#
```





3]In your Git account create 1.txt ,2.txt ,3.txt ,4.java ,5.doc file only txt files push it into central repository,

solution:




```
Activities Terminal Nov 14 15:41
root@deli-lhp-n77160: ~
root@deli-lhp-n77160: /home/senjila.s
root@deli-lhp-n77160: /home/senjila.s
root@deli-lhp-n77160: /home/senjila.s
root@deli-lhp-n77160: ~
root@deli-lhp-n77160: ~

ssh/
4.java
5.docx
snap/

root@deli-lhp-n77160:~# git commit -m '3asement 3rd one'

*** Please tell me who you are.

Run

git config --global user.email "you@example.com"
git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'root@deli-lhp-n77160.(none)')
root@deli-lhp-n77160:~# git config --global user.email "senjila52@gmail.com"
root@deli-lhp-n77160:~# git config --global user.name "senjila"
root@deli-lhp-n77160:~# git commit -m '3asement 3rd one'
(master root-commit) 09e9a62 3asement 3rd one
3 files changed, 0 insertions(+), 0 deletions(-)
create mode 100644 1.txt
create mode 100644 2.txt
create mode 100644 3.txt
root@deli-lhp-n77160:~# git push origin https://github.com/senjila19/repo1
fatal: invalid refspec 'https://github.com/senjila19/repo1'
root@deli-lhp-n77160:~# git push origin https://github.com/senjila19/repo1/branches
fatal: invalid refspec 'https://github.com/senjila19/repo1/branches'
root@deli-lhp-n77160:~# git remote add origin https://github.com/senjila19/senju.git
root@deli-lhp-n77160:~# git branch -M main
root@deli-lhp-n77160:~# git push -u origin main
Username for 'https://github.com': senjila19
Password for 'https://senjila19@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 217 bytes | 217.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/senjila19/senju.git
 * [new branch] main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
root@deli-lhp-n77160:~# git push origin
Username for 'https://github.com': senjila19
Password for 'https://senjila19@github.com':
Everything up-to-date
root@deli-lhp-n77160:~#
```

