1. Create users armstrong, jobs, wozniak, jack & eric with the password password1, password2, password3, password4 and password5 (password of each user might be different) respectively via htpasswd identity provider. Name of the secret to store these values should be **ex280-htpasswd (secret name) identity, provider name should be ex280-cluster.**

----------question 1 ends here----------

----------data extraction starts here----------

Question data extraction:

Given:

a) **Create user armstrong with the password password1. #instead of password1 it can be #anything**
b) **Create user jobs with the password password2.**
c) **Create user wozniak with the password password3.**
d) **Create user jack with the password password4.**
e) **Create user eric with the password password5.**
f) **Create file htpasswd which contains the secrets of the users.**
g) **Identity provider should be ex280-cluster.**

----------data extraction ends here----------

Solution –

Steps to solve:

> ssh root@workbench // password will be given in the instruction
> yum install httpd-tools -y
> oc login -u < given cluster admin username> -p < given password>
> httpasswd -c -B -b ex280-htpasswd < given user> < respective password > // use option // c one time // only for // creating // secret file

> oc create secret generic ex280-cluster –from-file=htpasswd=ex280-htpasswd -n openshift-config

> oc edit oauth

----------oauth opens here----------

Note search for /spec and put the below details like that.

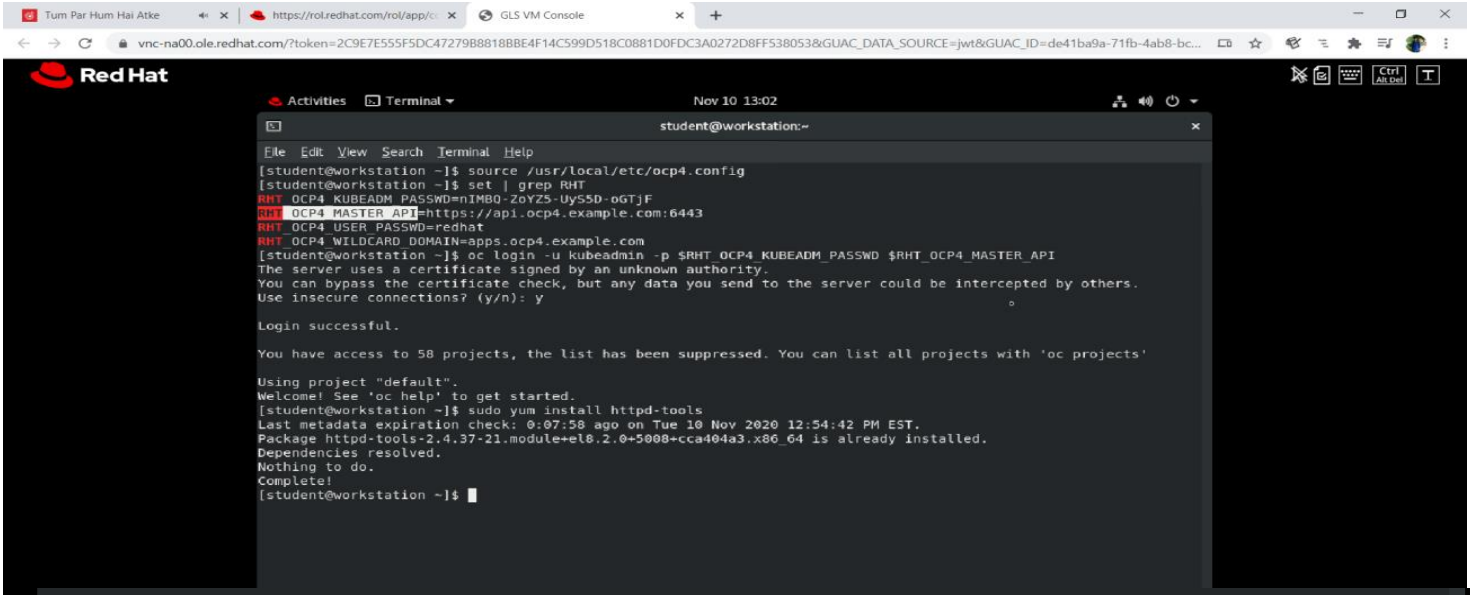
```
---
spec:
  identityProviders:
  - htpasswd:
      fileData:
        name: ex280-htpasswd
    mappingMethod: claim
    name: ex280-cluster    // identity provider name given in question
    type: HTPasswd
```

----------oauth close and saved here----------

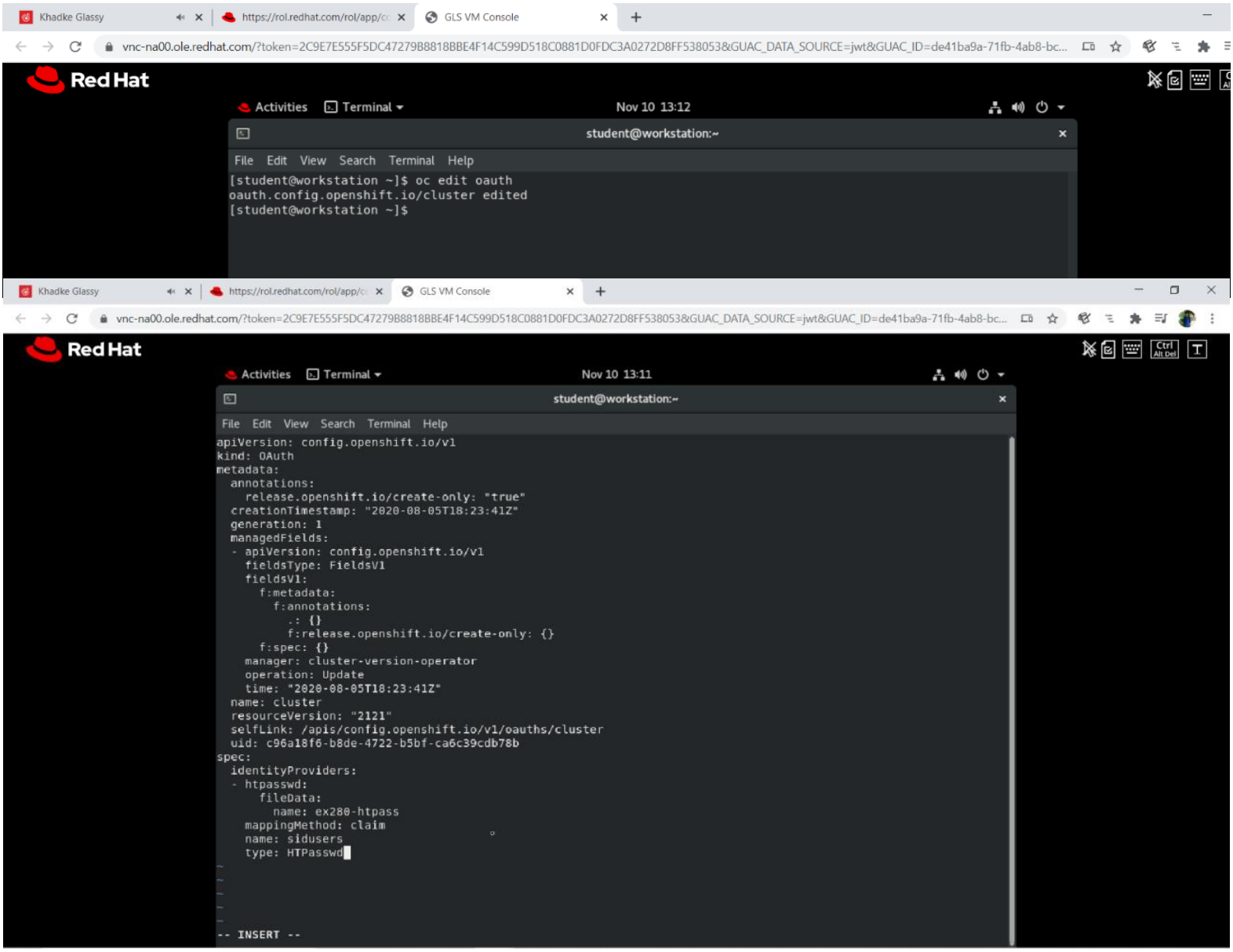
> save the oauth config

> oc get users // to get that users are created or not.

reference: note some data in picture might be incorrect < like names and all but take refrence from above command >




```
[student@workstation ~]$ htpasswd -c -B -b localusers armstrong redhat
Adding password for user armstrong
[student@workstation ~]$ htpasswd  -B -b localusers jobs redhat
Adding password for user jobs
[student@workstation ~]$ htpasswd  -B -b localusers jack redhat
Adding password for user jack
[student@workstation ~]$ htpasswd  -B -b localusers eric redhat
Adding password for user eric
[student@workstation ~]$ htpasswd  -B -b localusers wozniak redhat
Adding password for user wozniak
[student@workstation ~]$ cat localusers
armstrong:$2y$05$uzder9mLGkxMHpzBljW9LOKHm8H6oyXFSuqTrPlQCFu5b22edlQRu
jobs:$2y$05$5REJyXoyUUugO094KYDsp..PUNiM6/nFai8/T5xglGId6w8rT8iYm
jack:$2y$05$q8aEnOss1ypKDqhzdwgl1uH5wl18lAWX0Zha3JT9BMiZ5KBcMkW6.
eric:$2y$05$lyNLNgMPx0bpYDISPQjdnuzjEdRsay2CKf2ak2dKInihA3vuGlaWq
wozniak:$2y$05$c63lpurnCasy7Z/xNbi3tum2ZDouhPKiifOMD4tVcyBhU2R/0FBgG
[student@workstation ~]$ oc create secret generic ex280-htpass --from-file=htpasswd=localusers -n openshift-conf
ig
secret/ex280-htpass created
[student@workstation ~]$ oc get secret -n openshift-config
NAME                                TYPE                                  DATA   AGE
builder-dockercfg-rjdtp             kubernetes.io/dockercfg               1      96d
builder-token-bc55p                 kubernetes.io/service-account-token   4      96d
builder-token-pj6s2                 kubernetes.io/service-account-token   4      96d
default-dockercfg-9f2nk             kubernetes.io/dockercfg               1      96d
default-token-qmqc2                 kubernetes.io/service-account-token   4      96d
default-token-rz74b                 kubernetes.io/service-account-token   4      96d
deployer-dockercfg-jdz4x            kubernetes.io/dockercfg               1      96d
deployer-token-m52tn                kubernetes.io/service-account-token   4      96d
deployer-token-t8l2r                kubernetes.io/service-account-token   4      96d
etcd-client                         SecretTypeTLS                         2      96d
etcd-metric-client                  SecretTypeTLS                         2      96d
etcd-metric-signer                  SecretTypeTLS                         2      96d
etcd-signer                         SecretTypeTLS                         2      96d
ex280-htpass                        Opaque                                1      43s
initial-service-account-private-key Opaque                                1      96d
pull-secret                         kubernetes.io/dockerconfigjson        1      96d
[student@workstation ~]$
```



End of 1st question

2) Create 5 new-projects with names like (example: project1, project2, project3, project4, project5) and assign the roles to the respective user create as: armstrong is admin of project1, jack & eric has view permission on project2, wozniak has edit power on project1

----------question 2 ends here ----------

----------data extraction starts here----------

Question data extraction:

Given:

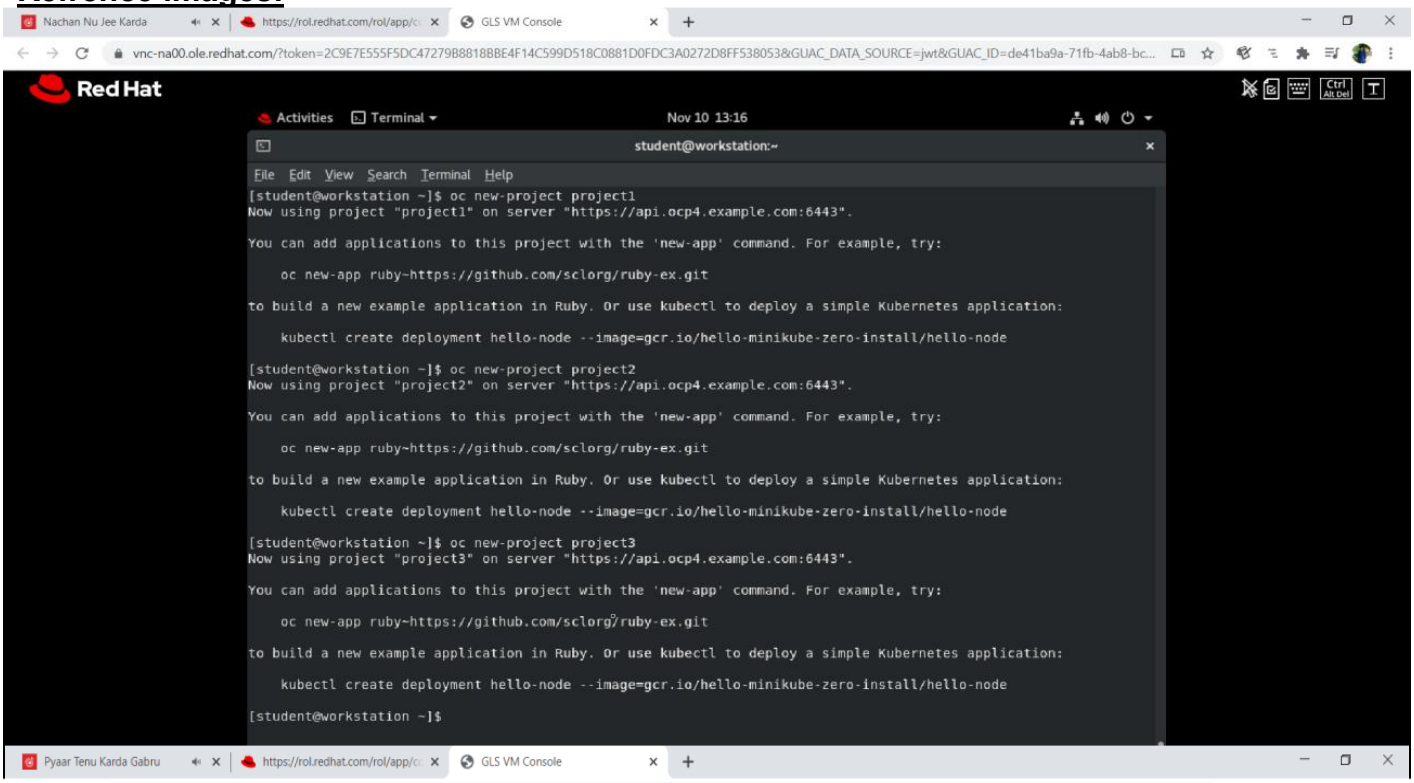
a) Create 5 new projects as project1, project2, project3, project4, project5.
a) user armstrong is admin of the project1.
b) user jack and eric have view permissions on project2.
c) user wozniak has power to edit in project1.

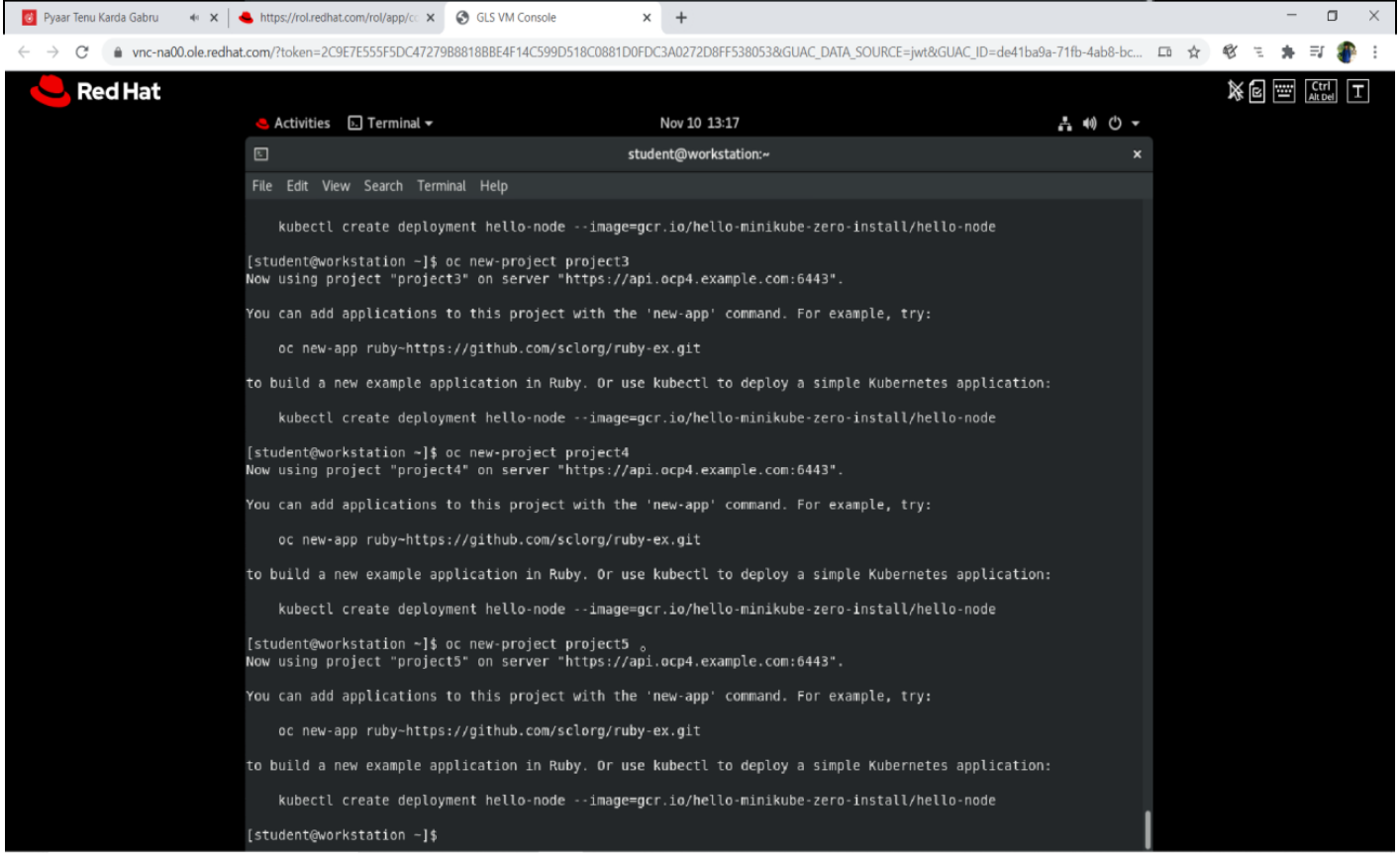
----------data extraction ends here----------

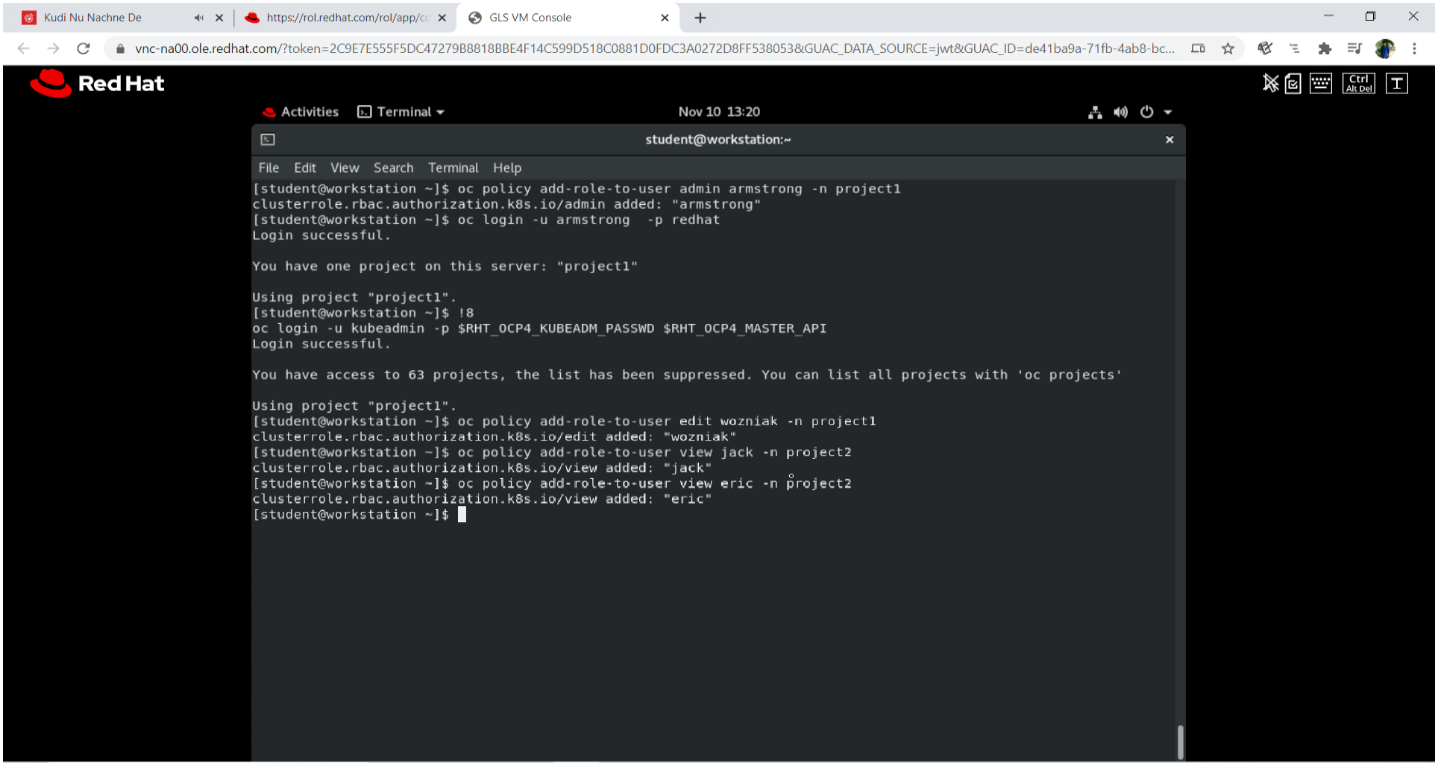
Sol:

> oc new-project < project name >
> oc policy add-role-to-user < role > < user > -n < project name >
Note: replace < role > with admin, edit, view as asked in question for respective user.

Refrence images:







3) Assign cluster permission to the users as: Jobs (cluster admin user) would be the cluster admin, wozniak would not be allowed cluster admin powers, No user would be able to provision projects, Jack (provisioner user) would be allowed to provision projects. kubeadmin user should be deleted.

----------question 3 ends here ----------

----------data extraction starts here----------

Question data extraction:

Given:

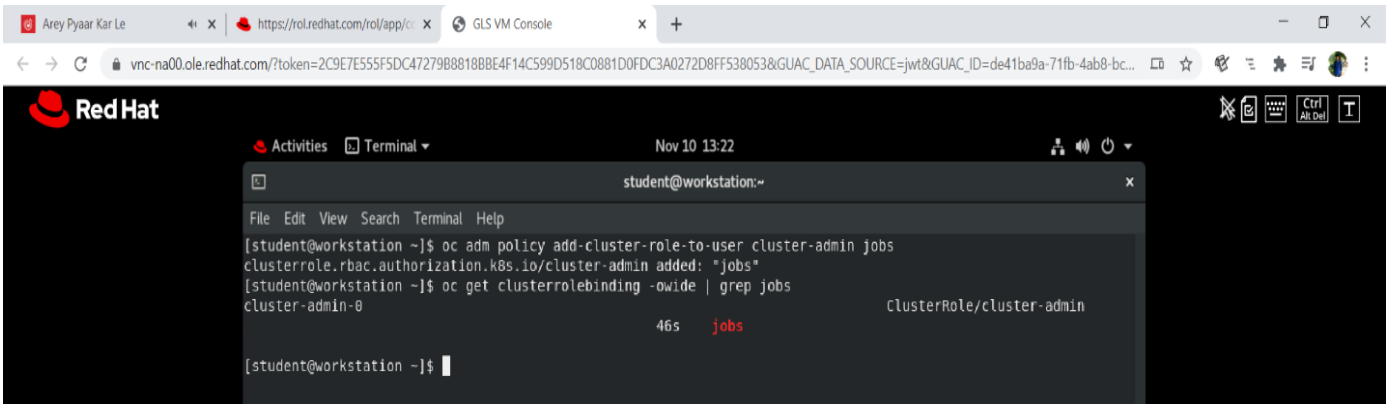
a) Remove the cluster project provision power.
b) Assign cluster-admin role to jobs user.
c) Assign project provisioner role to Jack user.

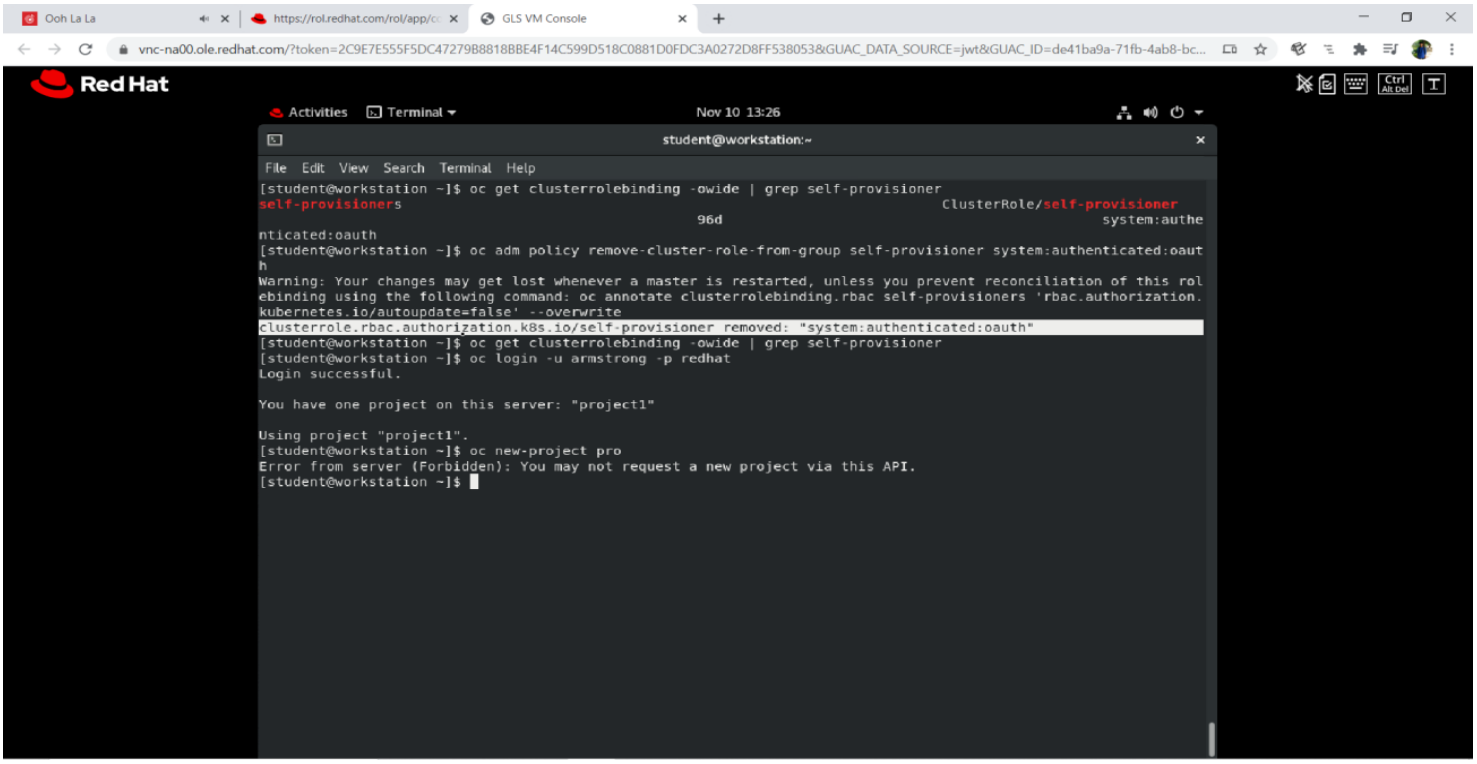
----------data extraction ends here----------

Sol:

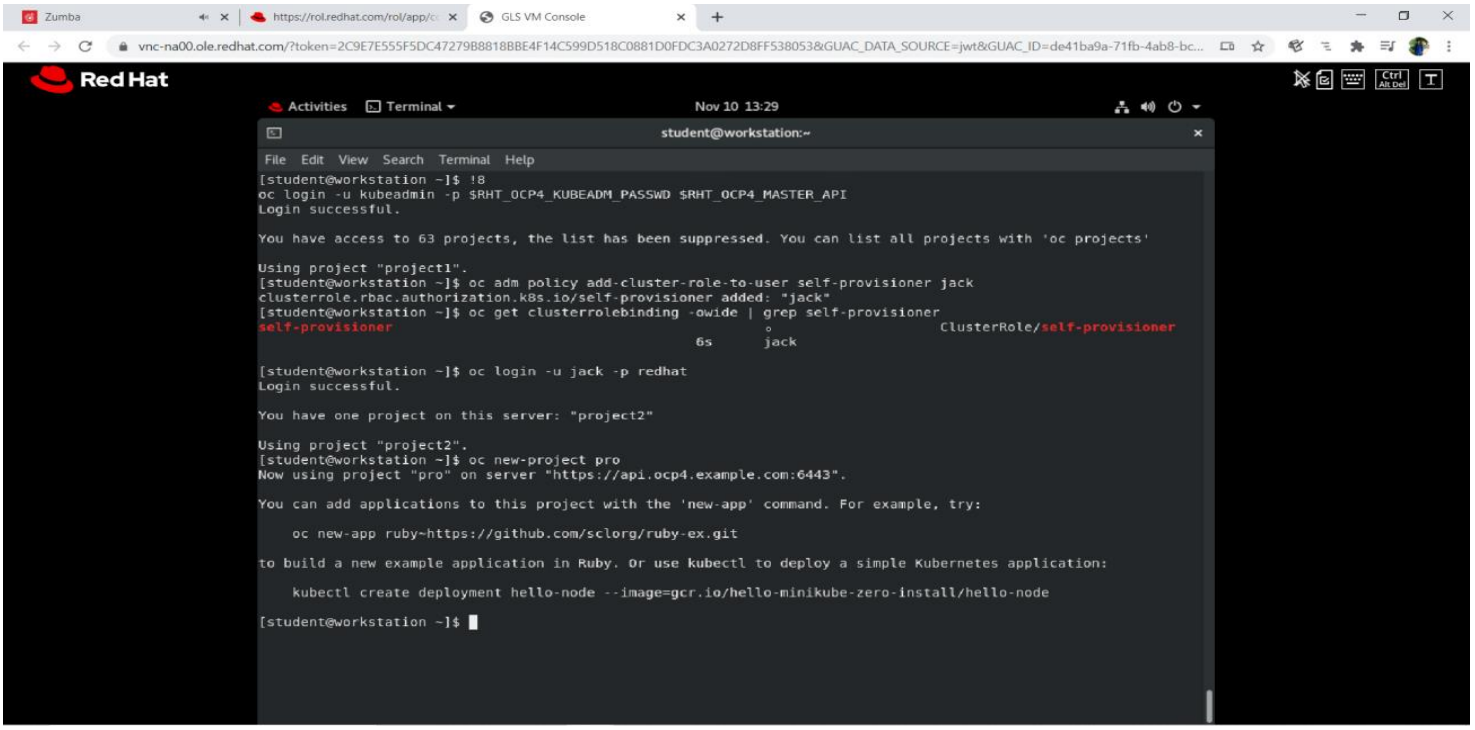
> oc adm policy add-cluster-role-to-user cluster-admin < given cluster admin user>
> oc adm policy remove-cluster-role-from-group self-provisioner system:authenticated:oauth
> oc adm policy add-cluster-role-to-user self-provisioner < given cluster provisioner user>

Reference images:





Here we removed self-provisioner to all the users we configured in oauth. Thats why we are no table to créate Project using Armstrong.
Lets assign self-provisioner to Jack user.



Here we have assigned self-provisioner to Jack user, so Jack user can créate projects.

4)Create two groups commander and pilot. Add user armstrong as part of commander group and jack & Eric to be part of pilot group. Commander group should be allowed to edit project3 and pilot group should be allowed view project1

----------question 4 ends here ----------

----------data extraction starts here----------

Question data extraction:

Given:

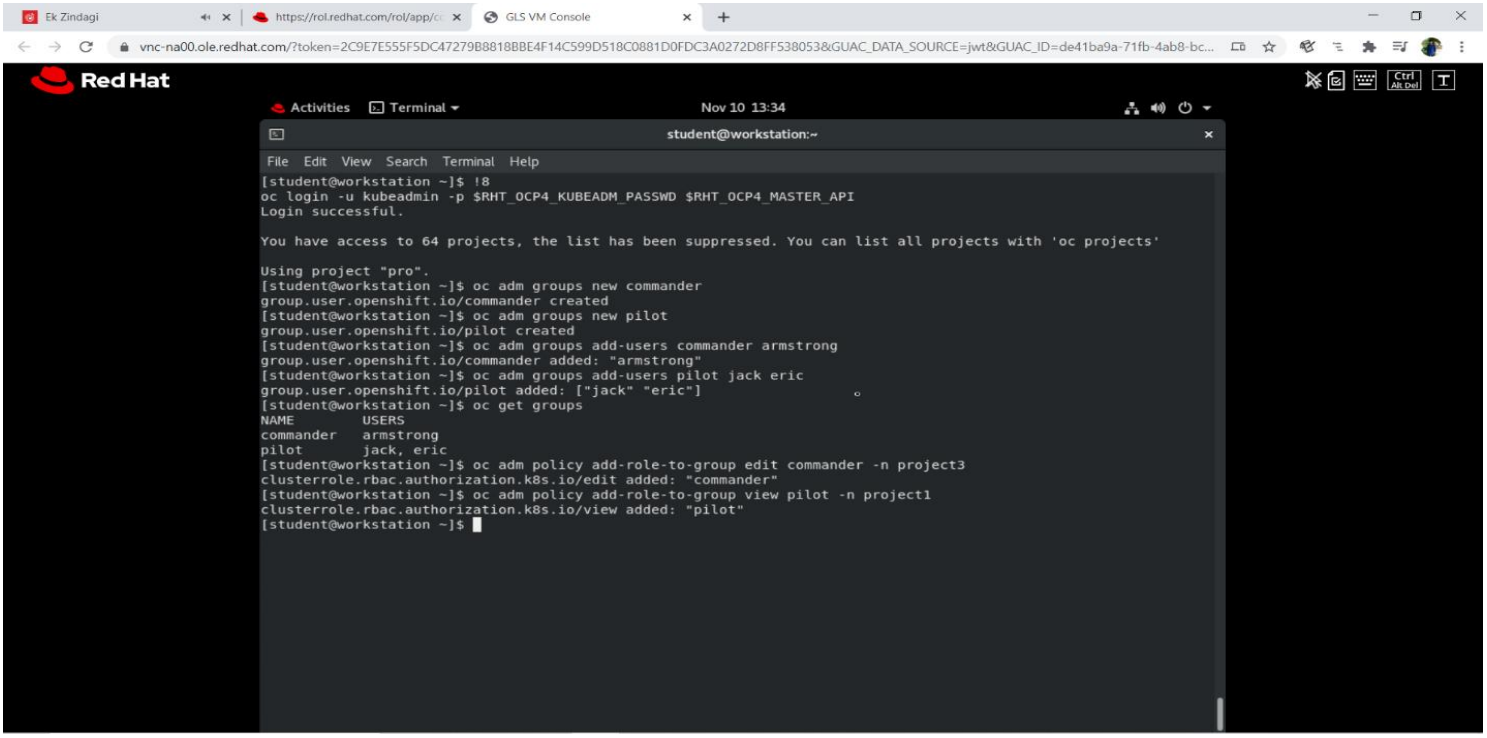
a) **Create group pilot containing user jack and eric.**
b) **Create group commander containing armstrong user.**
c) **commander group should have edit permissions in project3.**
d) **pilot group should have view permissions on project1.**

----------data extraction ends here----------

Sol:

> oc adm groups new commander
> oc adm groups new pilot
> oc adm groups add-users commander armstrong
> oc adm groups add-users pilot jack eric
> oc policy add-role-to-group < role > < group > -n < project name >

Reference Image:



5) Create a resource quota of name ex280-quota (quota name) in the project1 (project name) with resource consumption to be as: Pods=3, service=6, Memory=1Gi, CPU=2 Core, replication controllers=3

----------data extraction starts here----------

Question data extraction:

Given:

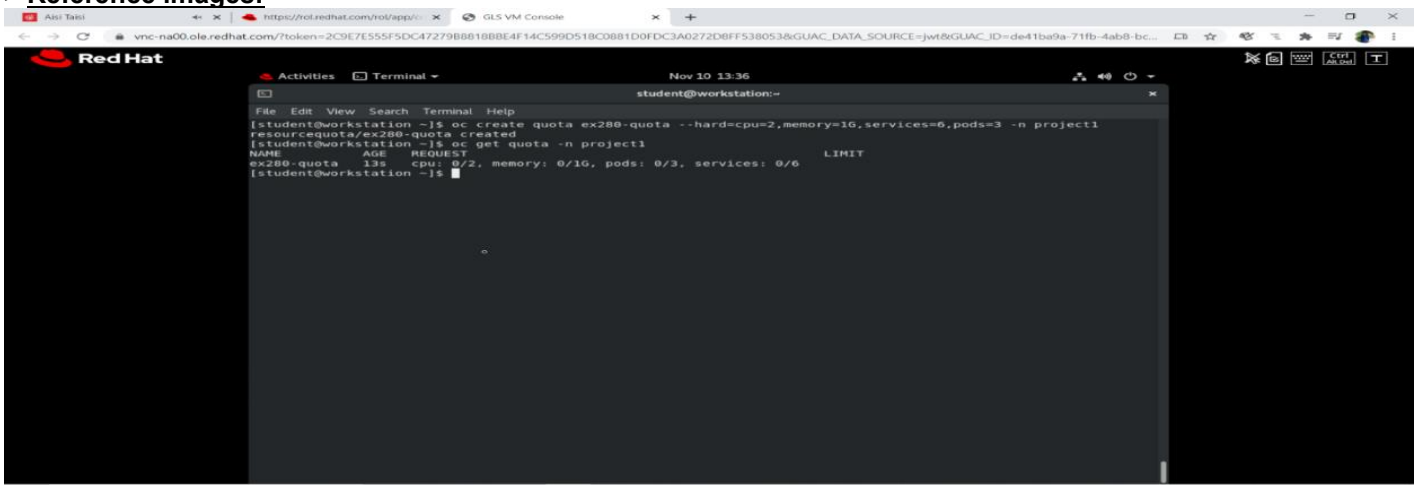
a) **Create resource quota named ex280-quota in project1.**
b) **Resource quota for pod=3, service=6, memory=1Gi, cpu=2 and replication controllers=3.**

----------data extraction end here----------

Sol

> oc create quota < name of quota > --hard=cpu=2,memory=1G,pods=3,services=6,replicationcontrollers=3 -n < project name >

> Reference images:



6) Create a limit Range on project4 with limits set to be as: For Pod & Container CPU 10m to 100m and 5Mi to 500Mi, default Request: 50m for container

----------data extraction starts here----------

Question data extraction:

Given:

a) **create limit range in project4.**
b) **Create limit range for pod with min cpu 10m with min memory 5Mi and max cpu 100m with max memory 500Mi.**
c) **Create limit range for container with min cpu 10m with min memory 5Mi and max cpu 100m with max memory 500Mi.**
d) **Container default request for cpu should be 50m with default memory (in question not given so give 100Mi I guess).**

----------data extraction end here----------

Sol:

> vim limit.yaml

----------limit.yaml opens here----------

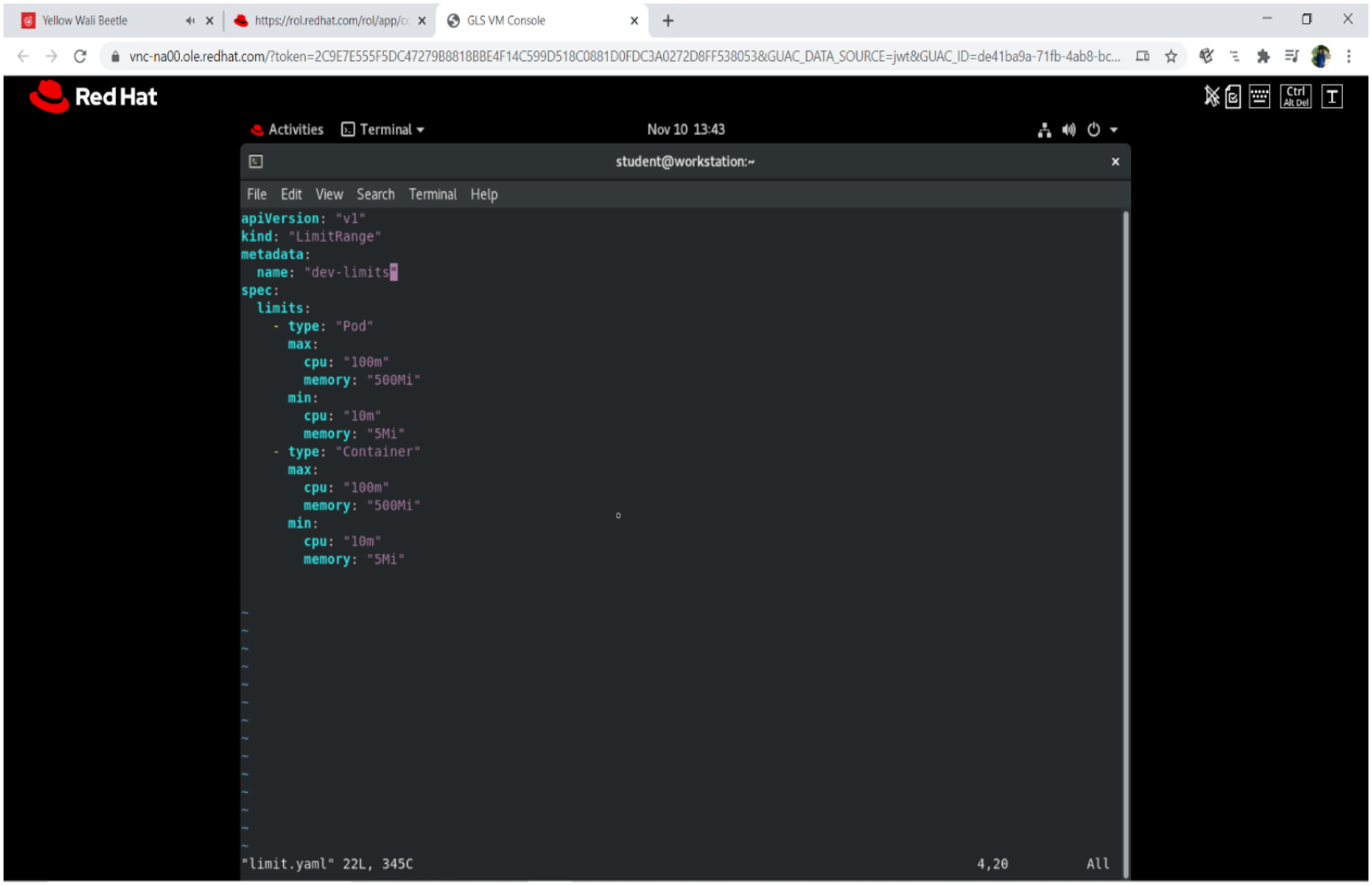
```
apiVersion: v1
kind: LimitRange
metadata:
  name: dev-limits
  namespace: project4
spec:
  limits:
    - type: Pod
```

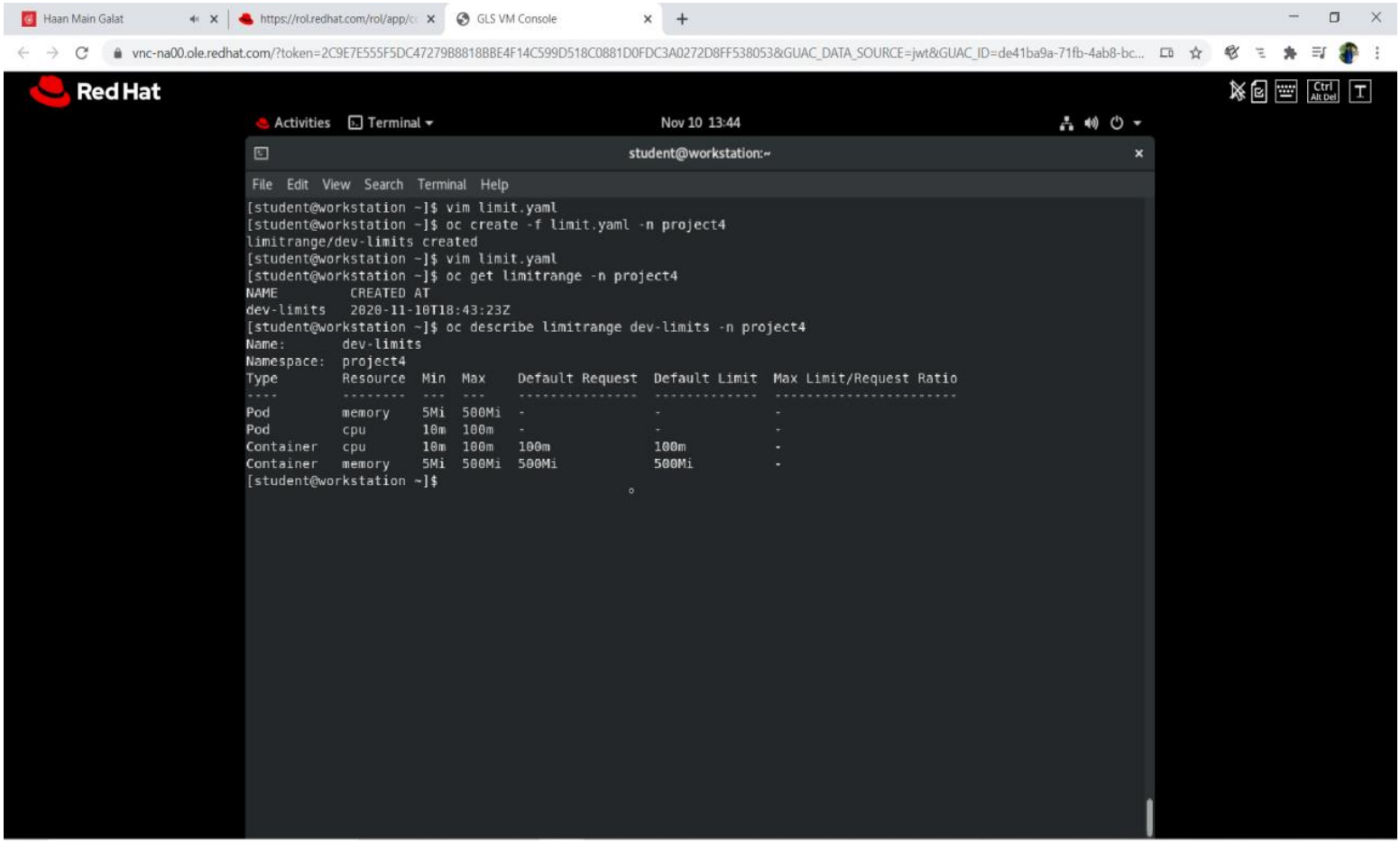
```
    max:
      cpu: 100m
      memory: 500Mi
    min:
      cpu: 10m
      memory: 5Mi
  - type: Container
    max:
      cpu: 100m
      memory: 500Mi
    min:
      cpu: 10m
      memory: 50Mi
    defaultRequest:
      cpu: 50m
      memory: 100Mi
```

----------limit.yaml closes here----------

> oc create -f limit.yaml -n < project name >
> oc describe limitrange dev-limits -n < project name > // to check the limits

Refrence images:





7)Deploy the application and make sure it is available in running state and must show some output on the given url.(taint/toleration)

➔ Delete route and create route

----------data extraction starts here----------

Question data extraction:

Given:

a) **Project should be given in question.**
b) **Taint is applied so we need to apply tolerations.**
c) **Application name should be given.**
d) **Asked us to delete the route and recreate it with given hostname.**

----------data extraction end here----------

Sol:

> oc project < project-name > # project name should be given

> oc get pods # to get the pods which aren't running and in pending state.

> oc edit deploy/<application> # <application> most probably should be httpd.

Note: to remember the taint keywords use:

> oc describe node <nodename> | grep -i taint

Out: Taints: Node=Worker:NoSchedule

> oc edit deploy/<application> # continued

----------deployment config opens here----------

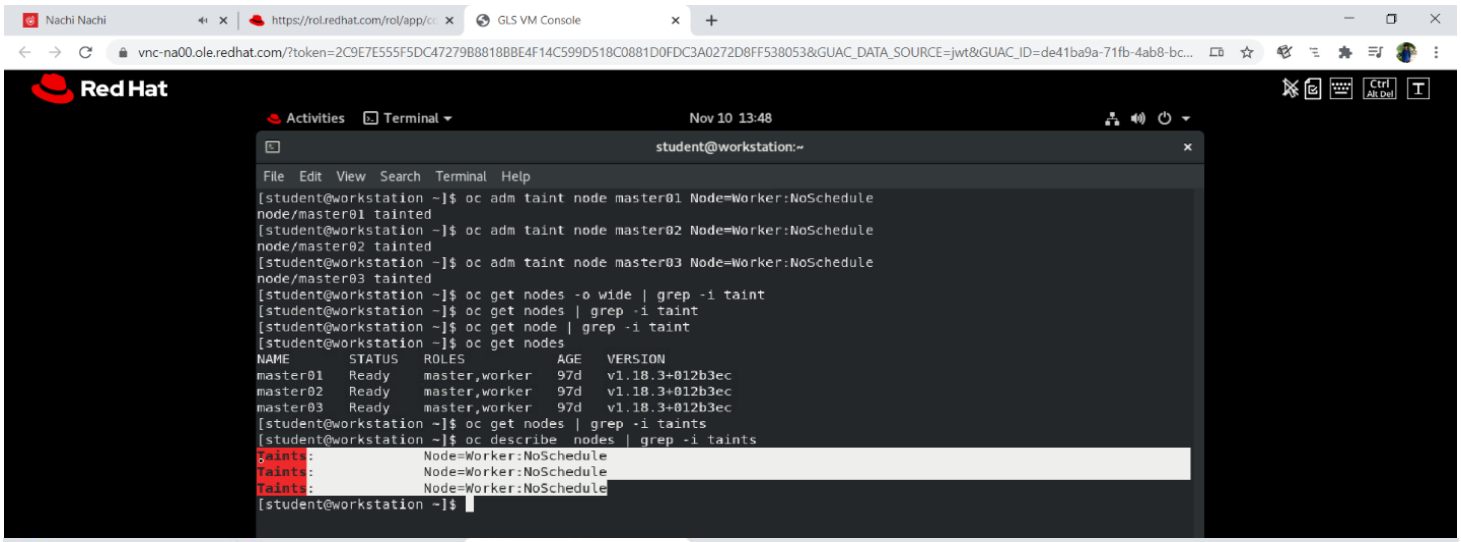
Note: search /dnsPolicy two times to reach checkpoint

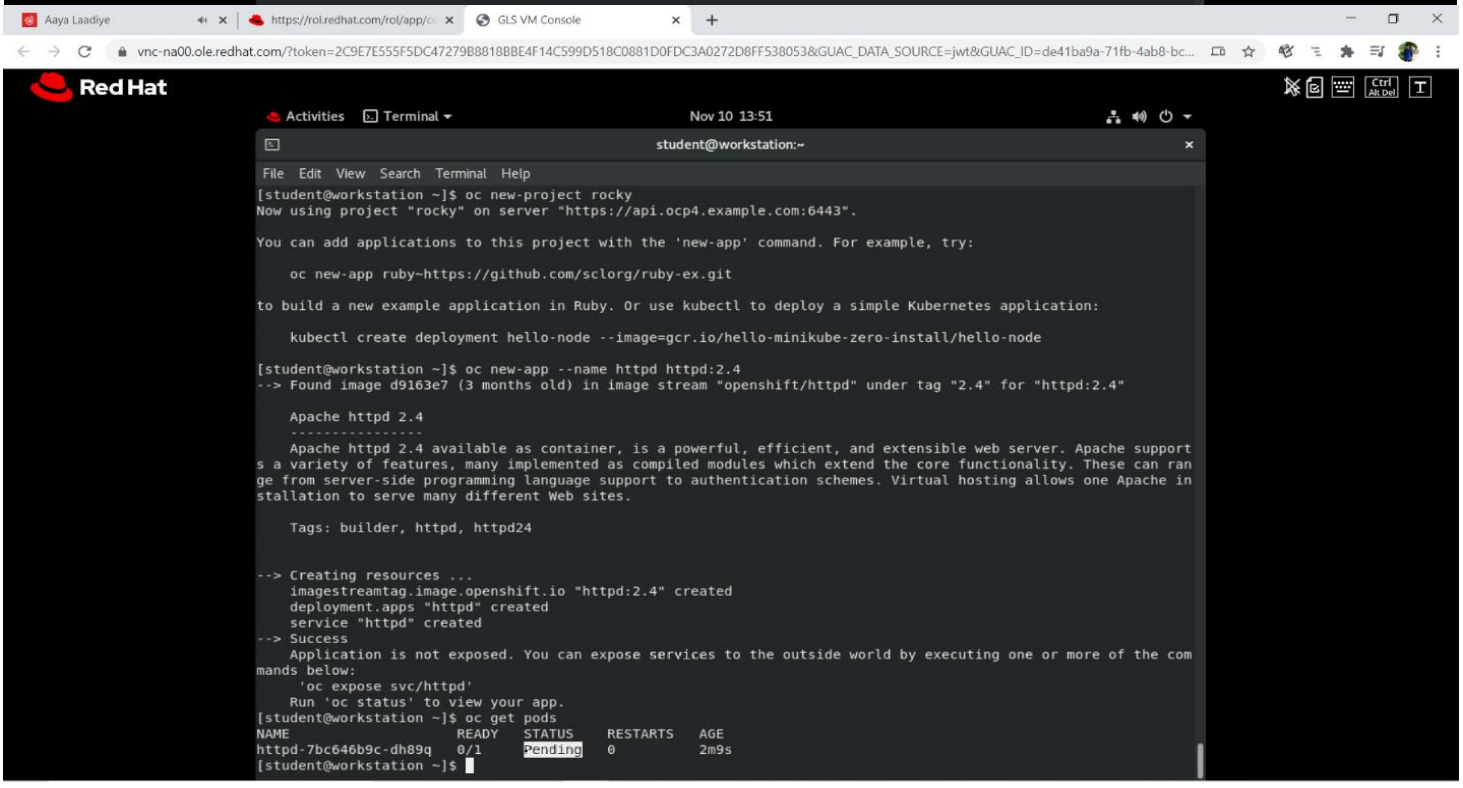
```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
```

----------file data ends here----------

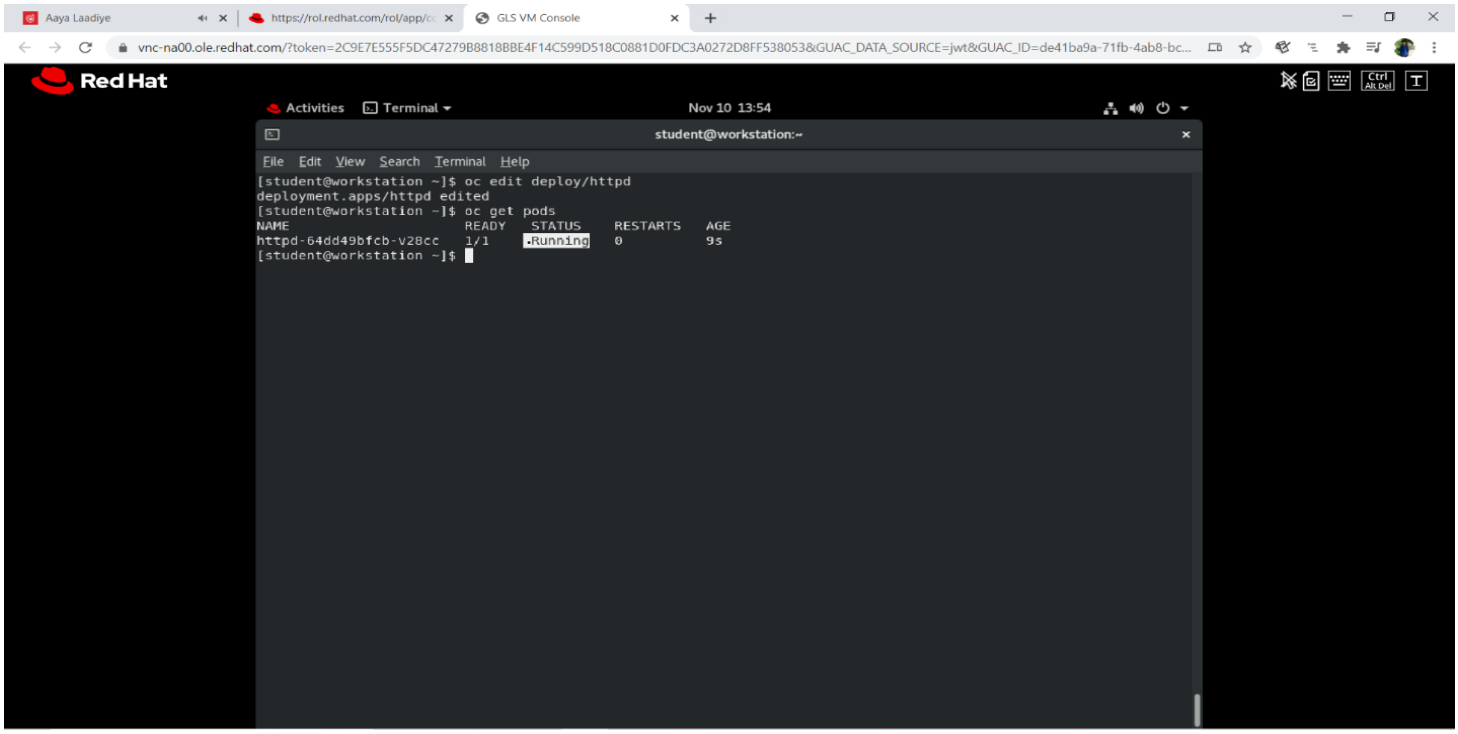
> oc get routes # To find out the route
> oc delete route < route name > # Delete the route
> oc expose svc < deployement name > --hostname < given hostname >

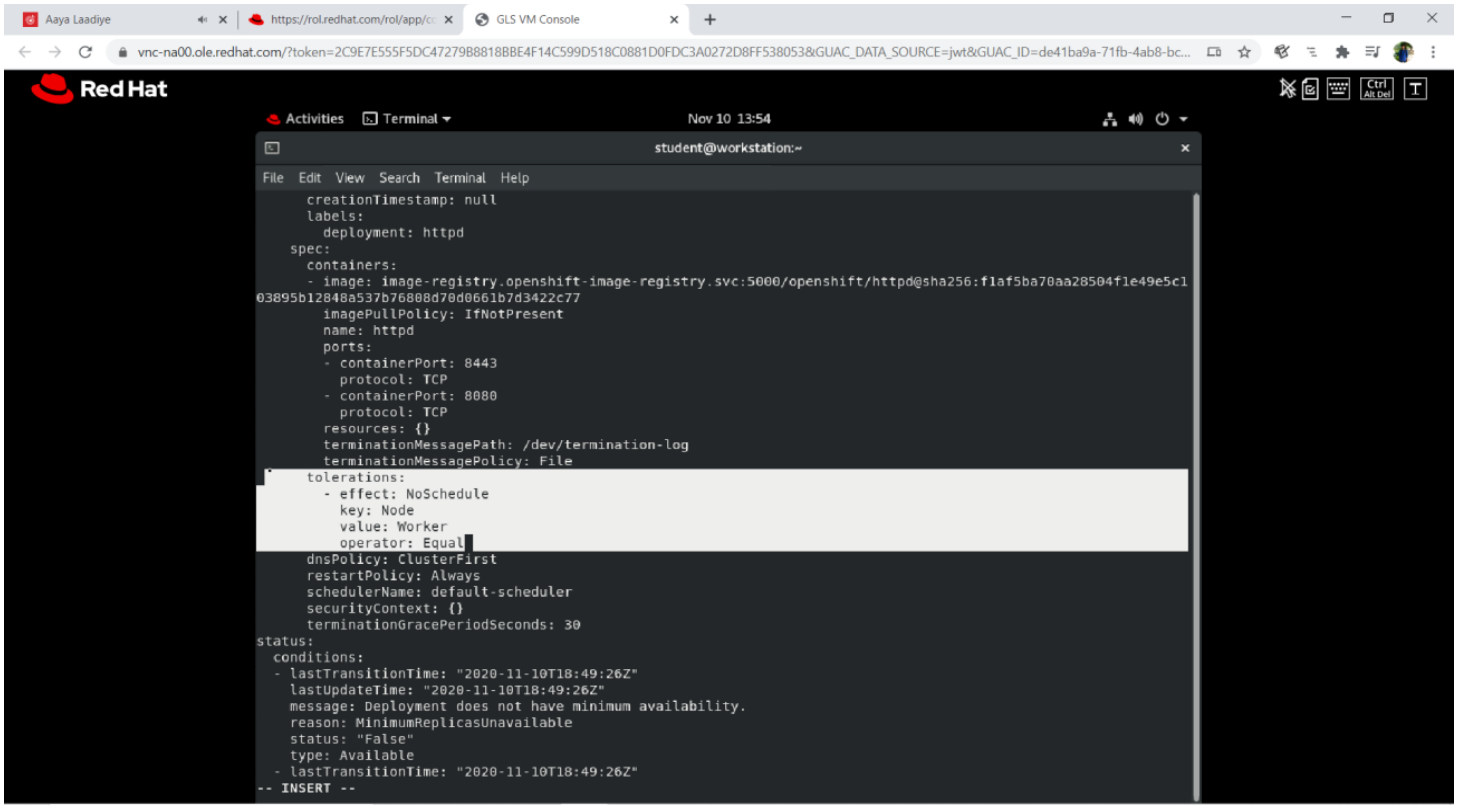
Reference images below:





In this question, there is a precreated project named rocky and we have to get inside the rocky project. The is a precreated app, which is pending due to taint; we have to apply taint

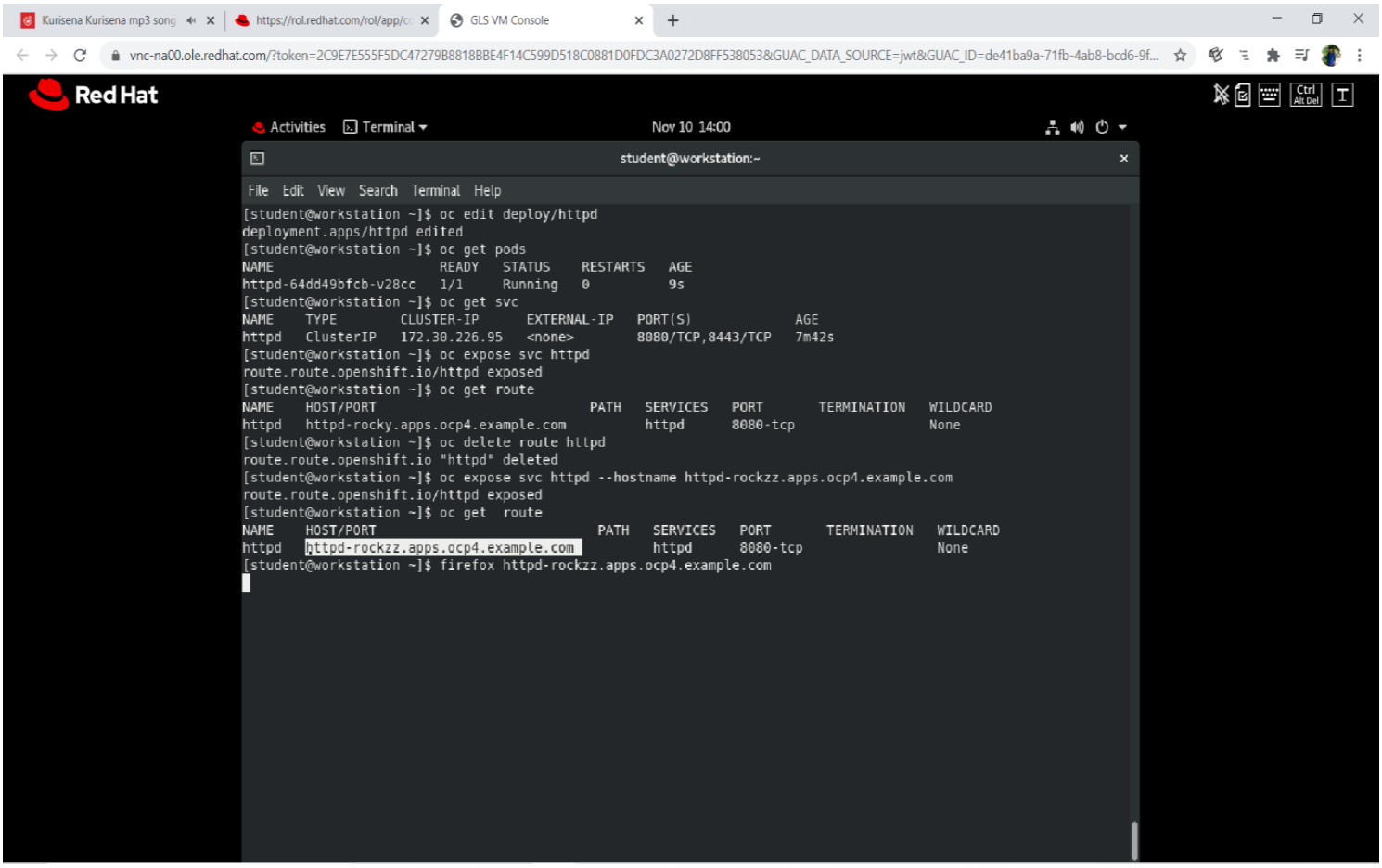


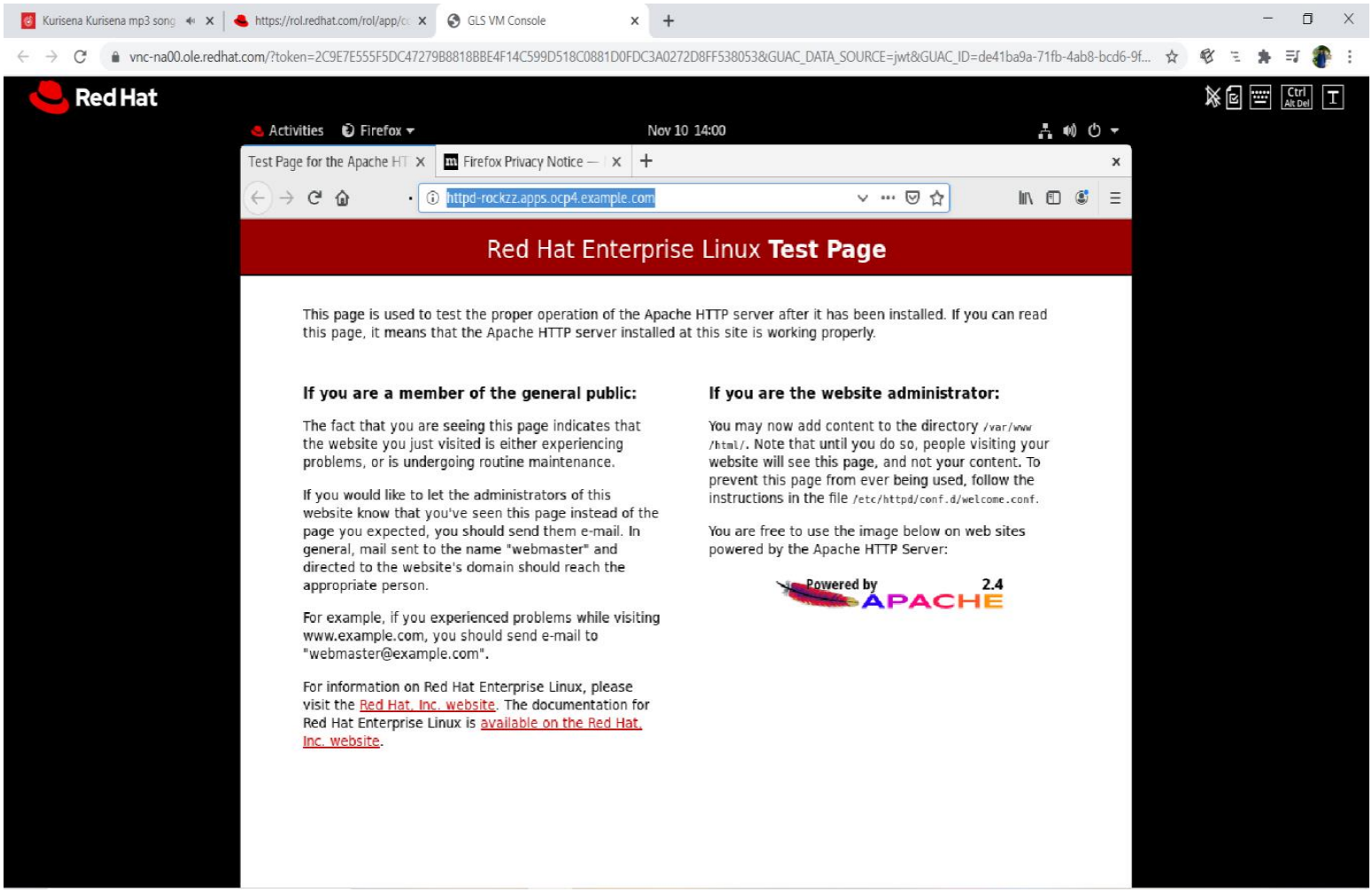


After applying the taint, The pod comes to running state;

But the route, was inaccessible

We have to delete the given route and create the new route using the provided hostname


Kurisena Kurisena mp3 song
https://rol.redhat.com/rol/app/cc
GLS VM Console
vnc-na00.ole.redhat.com/?token=2C9E7E555F5DC47279B8818BBE4F14C599D518C0881D0FDC3A0272D8FF538053&GUAC_DATA_SOURCE=jwt&GUAC_ID=de41ba9a-71fb-4ab8-bcd6-9f...
Red Hat
Activities
Terminal
Nov 10 14:00
student@workstation:~
File Edit View Search Terminal Help
[student@workstation ~]$ oc edit deploy/httpd
deployment.apps/httpd edited
[student@workstation ~]$ oc get pods
NAME READY STATUS RESTARTS AGE
httpd-64dd49bfcb-v28cc 1/1 Running 0 9s
[student@workstation ~]$ oc get svc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
httpd ClusterIP 172.30.226.95 <none> 8080/TCP,8443/TCP 7m42s
[student@workstation ~]$ oc expose svc httpd
route.route.openshift.io/httpd exposed
[student@workstation ~]$ oc get route
NAME HOST/PORT PATH SERVICES PORT TERMINATION WILDCARD
httpd httpd-rocky.apps.ocp4.example.com httpd 8080-tcp None
[student@workstation ~]$ oc delete route httpd
route.route.openshift.io "httpd" deleted
[student@workstation ~]$ oc expose svc httpd --hostname httpd-rockzz.apps.ocp4.example.com
route.route.openshift.io/httpd exposed
[student@workstation ~]$ oc get route
NAME HOST/PORT PATH SERVICES PORT TERMINATION WILDCARD
httpd httpd-rockzz.apps.ocp4.example.com httpd 8080-tcp None
[student@workstation ~]$ firefox httpd-rockzz.apps.ocp4.example.com


Kurisena Kurisena mp3 song
https://rol.redhat.com/rol/app/cc
GLS VM Console
vnc-na00.ole.redhat.com/?token=2C9E7E555F5DC47279B8818BBE4F14C599D518C0881D0FDC3A0272D8FF538053&GUAC_DATA_SOURCE=jwt&GUAC_ID=de41ba9a-71fb-4ab8-bcd6-9f...
Red Hat
Activities
Firefox
Nov 10 14:00
Test Page for the Apache HT
Firefox Privacy Notice —
httpd-rockzz.apps.ocp4.example.com
Red Hat Enterprise Linux Test Page
This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.
If you are a member of the general public:
The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.
If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.
For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".
For information on Red Hat Enterprise Linux, please visit the Red Hat, Inc. website. The documentation for Red Hat Enterprise Linux is available on the Red Hat, Inc. website.
If you are the website administrator:
You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.
You are free to use the image below on web sites powered by the Apache HTTP Server:
Powered by APACHE 2.4

8. Manually Scale up the application running on project5 upto 5 replicas(taint/toleration)
Sol:

----------data extraction starts here----------

Question data extraction:

Given:

a) Add the tolerance to the application deployment.
b) We need to do it in project5.
c) Manually scale the application having 5 replicas.

----------data extraction end here----------

> oc project project5

> oc get pods

> oc edit deploy/<app name>

----------deployment config opens here----------

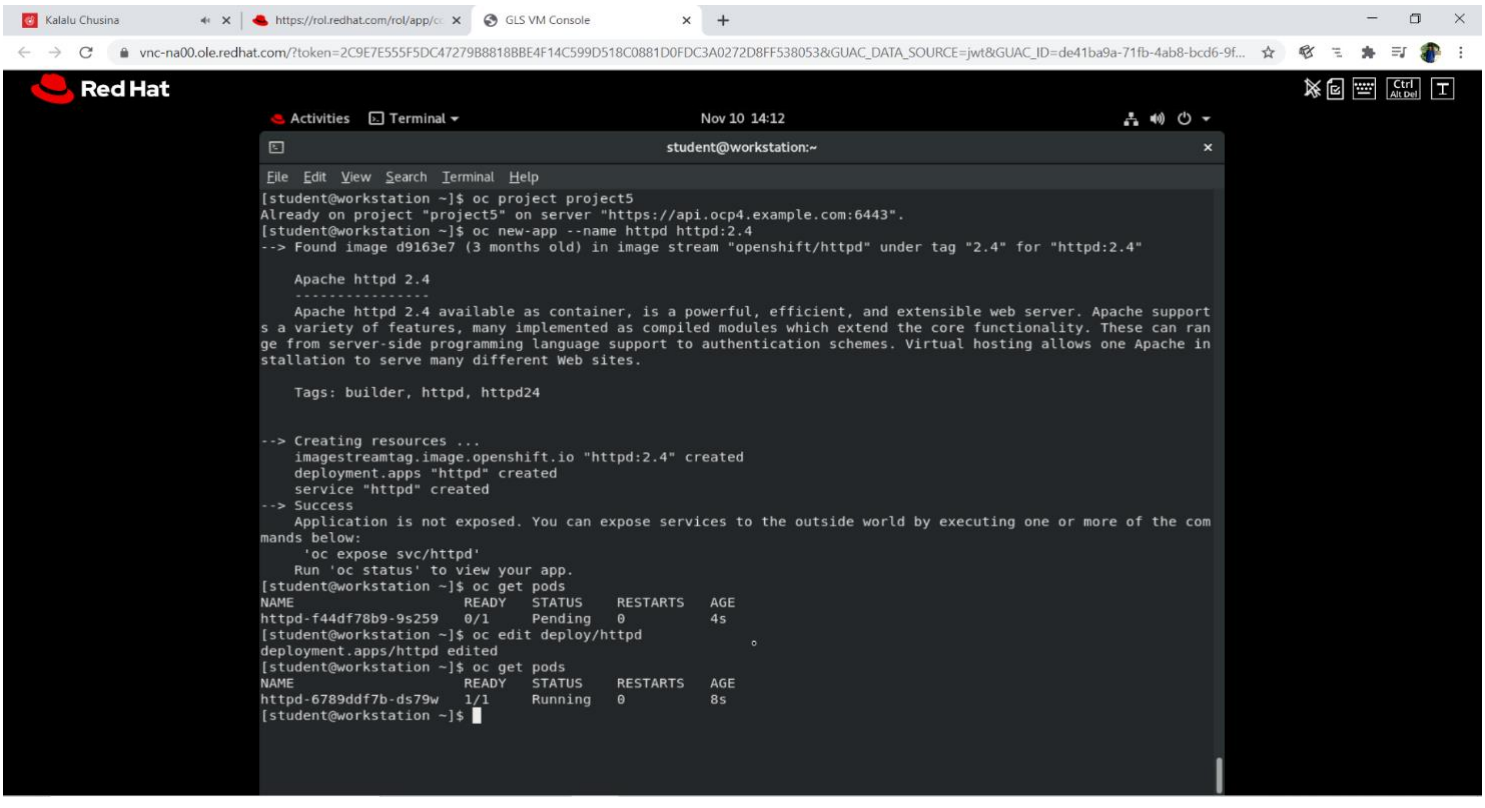
Note: search /dnsPolicy two times to reach checkpoint

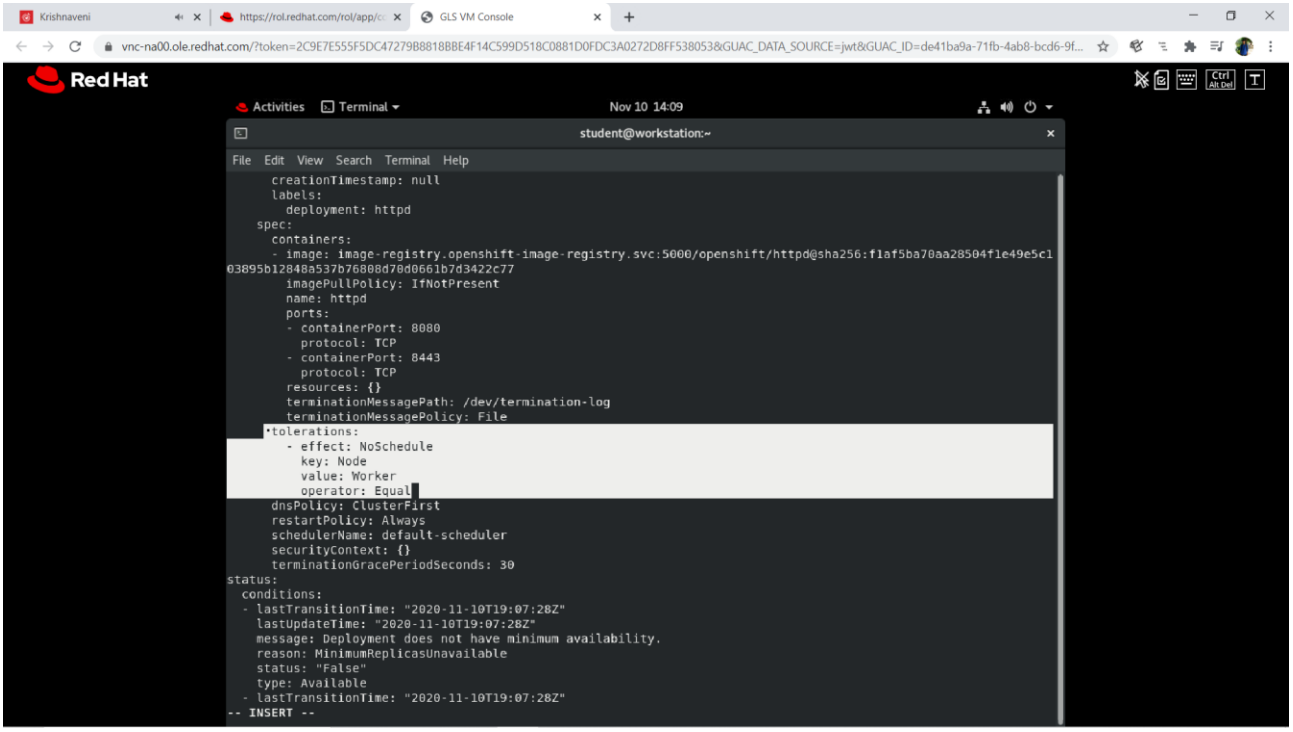
```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
```

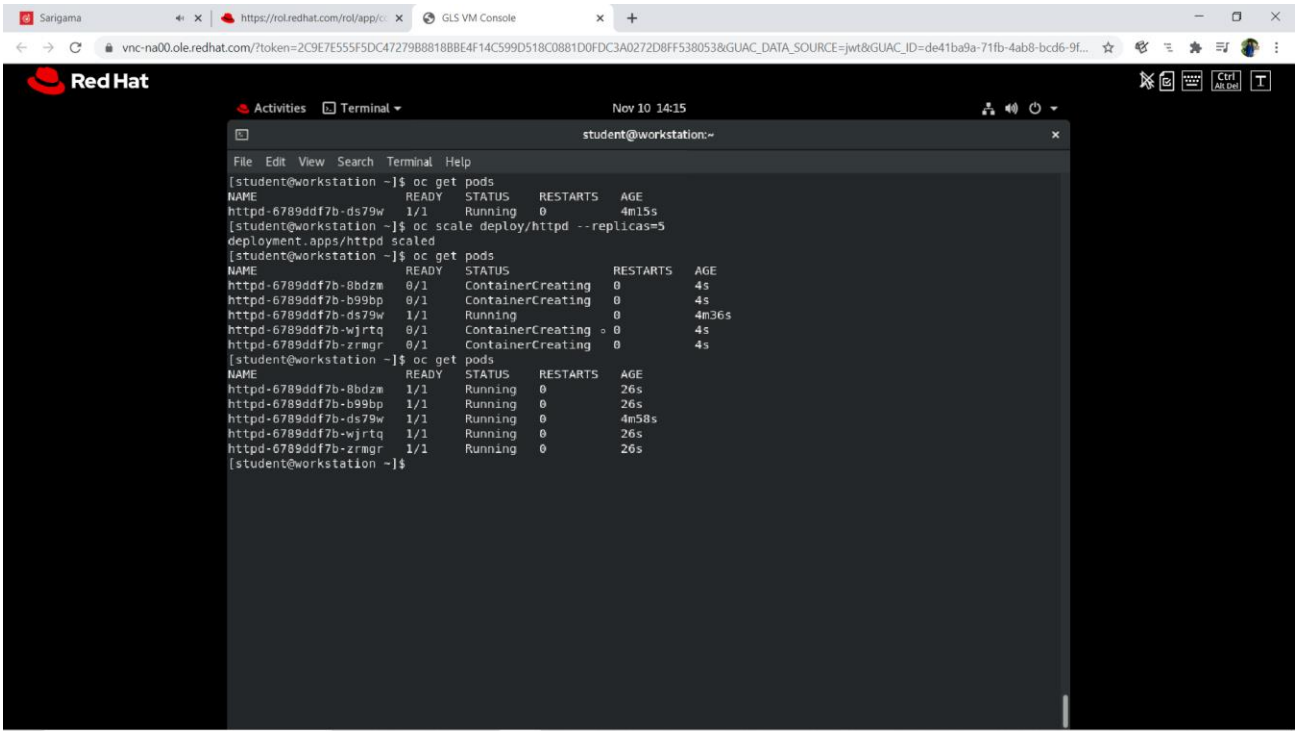
----------file data ends here----------

> oc scale deploy/<application name> --replicas 5

Refrence images:







9) Apply autoscale on the application running in project7 with min pod 6, Max 9 and cpu-percent=50 and with a resource request for cpu of 10m and limit for cpu is 100m

or

Auto scale of deployment and they didn't ask for quota they just ask for the limit like

Set cpu resource request: 10

Set cpu resource limit: 100

----------data extraction starts here----------

Question data extraction:

Given:

a) Add the tolerance to the application deployment.
b) We need to do it in project7.
c) Auto scale the application with min 6 pods and max 9 and cpu 50% with resource request 10 cpu and cpu resources limit 100cpu.

----------data extraction end here----------

Sol:

> oc project project7

> oc edit deploy/< application name >

----------deployment config opens here----------

Note: search /dnsPolicy two times to reach checkpoint

```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
```

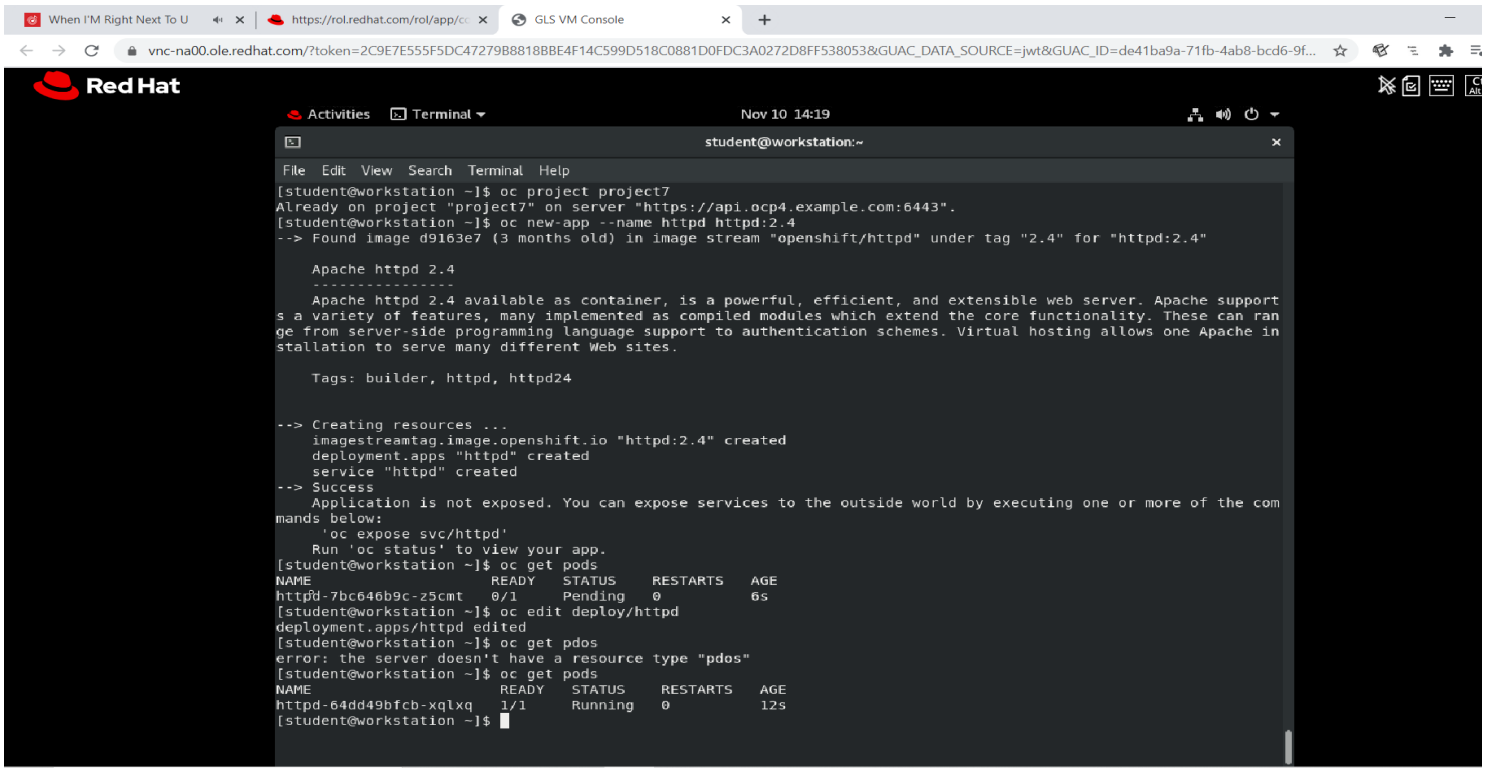
----------file data ends here----------

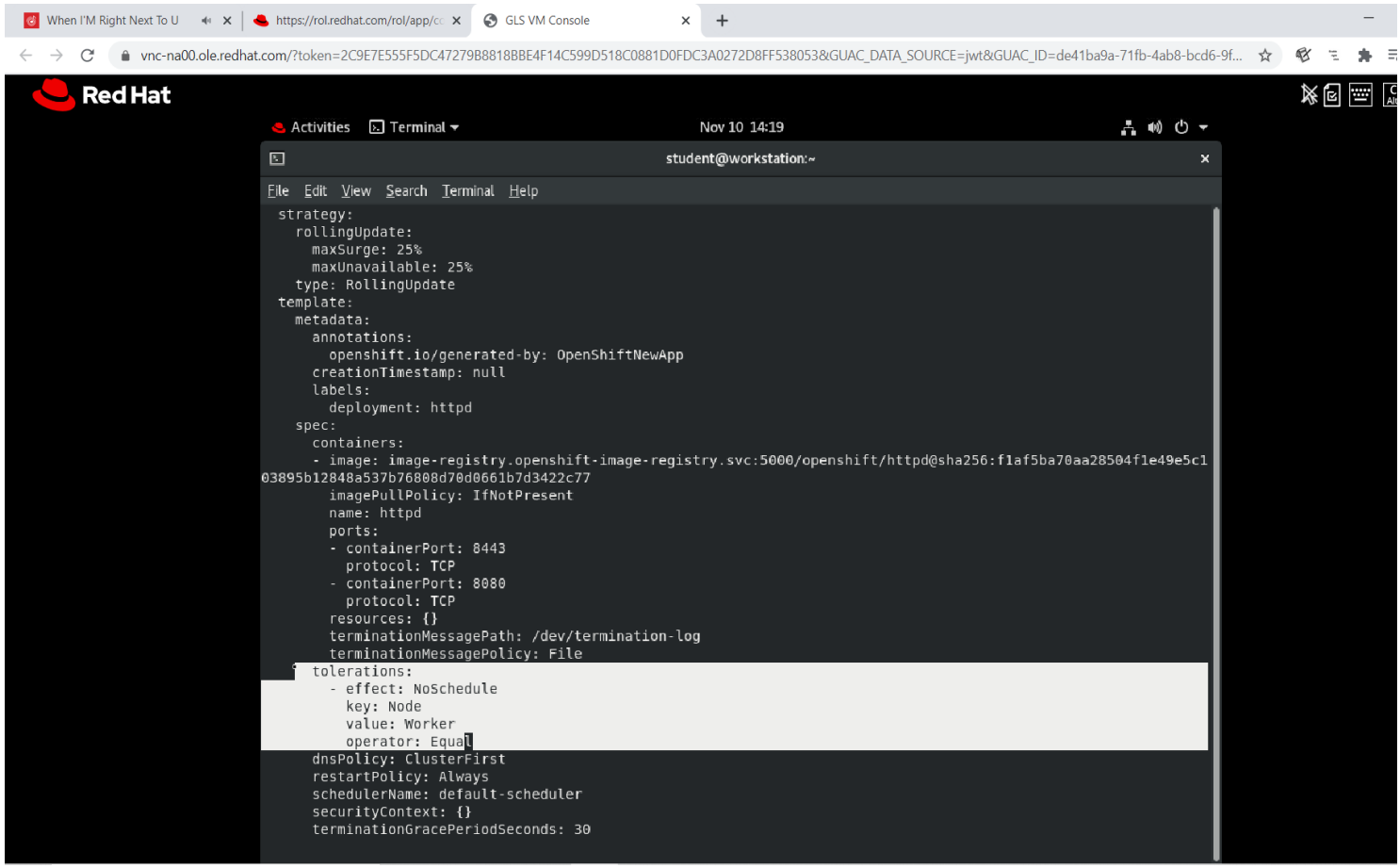
> oc get pods #check if toleration working

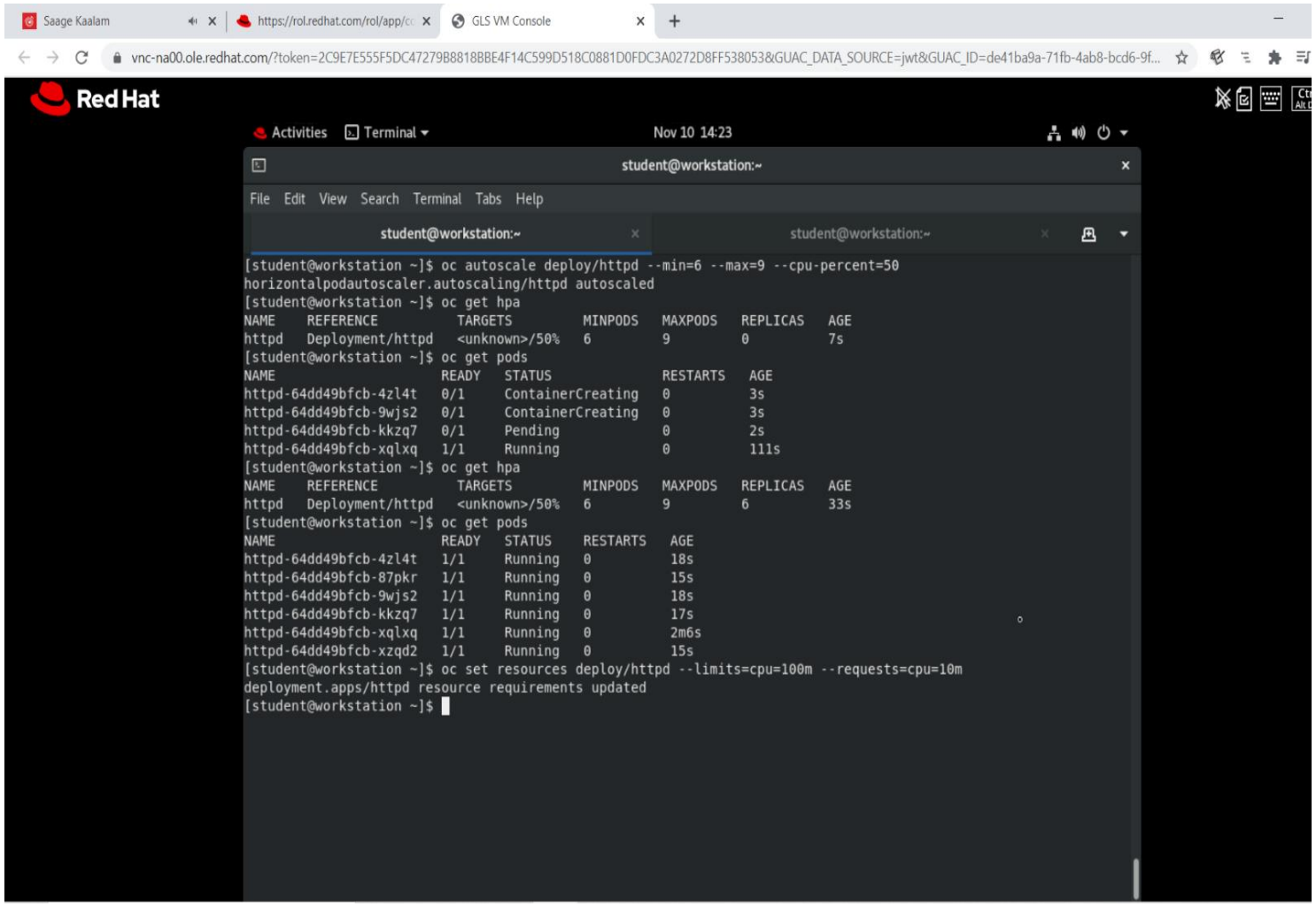
> oc autoscale deploy/< app name > --min=6 --max=9 --cpu-percent=50

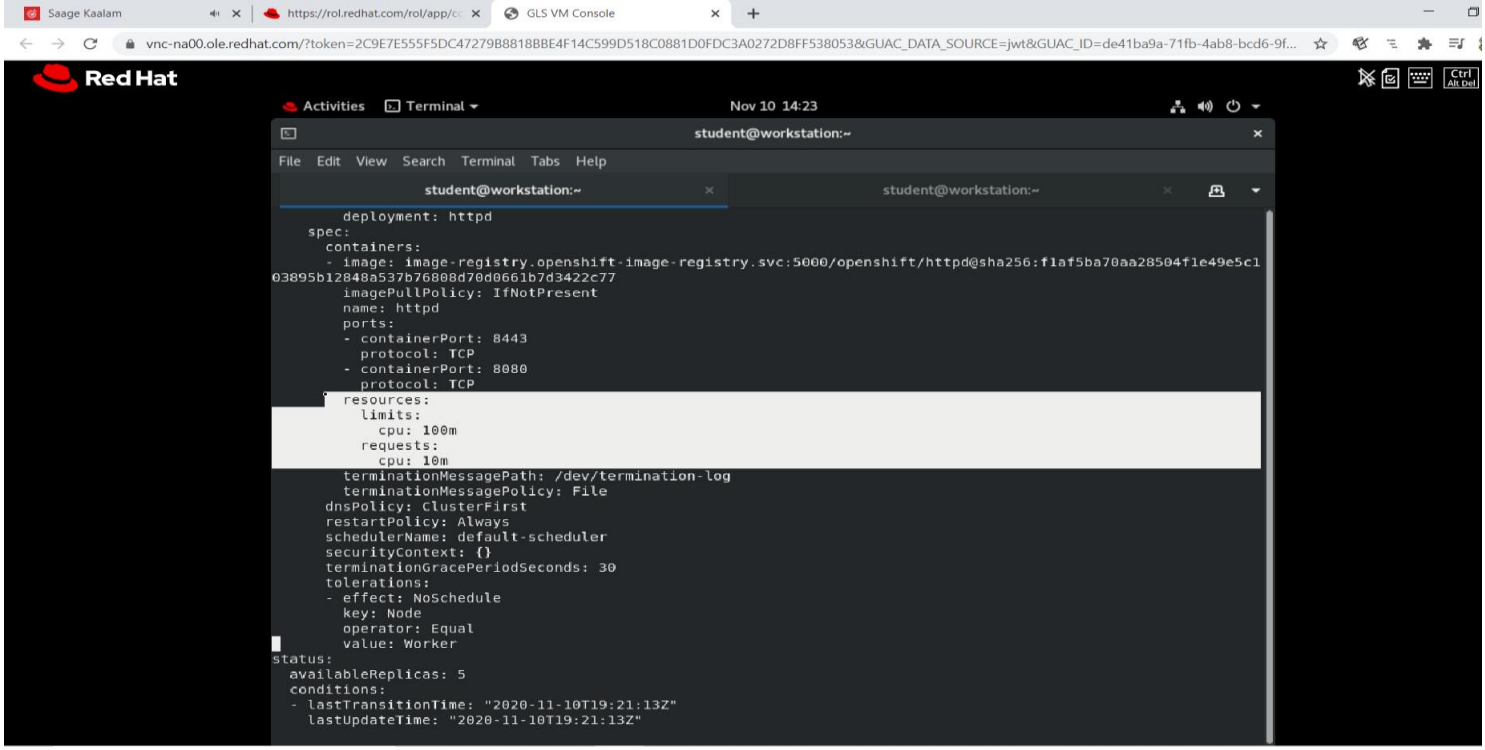
> oc set resources deploy/< app name> --limits=cpu=100m –requests=cpu=10m

Refrence images:




When I'M Right Next To U
https://rol.redhat.com/rol/app/c
GLS VM Console
vnc-na00.ole.redhat.com/?token=2C9E7E555F5DC47279B8818BBE4F14C599D518C0881D0FDC3A0272D8FF538053&GUAC_DATA_SOURCE=jwt&GUAC_ID=de41ba9a-71fb-4ab8-bcd6-9f...
Red Hat
Activities
Terminal
Nov 10 14:19
student@workstation:~
File Edit View Search Terminal Help
strategy:
rollingUpdate:
maxSurge: 25%
maxUnavailable: 25%
type: RollingUpdate
template:
metadata:
annotations:
openshift.io/generated-by: OpenShiftNewApp
creationTimestamp: null
labels:
deployment: httpd
spec:
containers:
- image: image-registry.openshift-image-registry.svc:5000/openshift/httpd@sha256:f1af5ba70aa28504f1e49e5c103895b12848a537b76808d70d0661b7d3422c77
imagePullPolicy: IfNotPresent
name: httpd
ports:
- containerPort: 8443
protocol: TCP
- containerPort: 8080
protocol: TCP
resources: {}
terminationMessagePath: /dev/termination-log
terminationMessagePolicy: File
tolerations:
- effect: NoSchedule
key: Node
value: Worker
operator: Equal
dnsPolicy: ClusterFirst
restartPolicy: Always
schedulerName: default-scheduler
securityContext: {}
terminationGracePeriodSeconds: 30


Saage Kaalam
https://rol.redhat.com/rol/app/c
GLS VM Console
vnc-na00.ole.redhat.com/?token=2C9E7E555F5DC47279B8818BBE4F14C599D518C0881D0FDC3A0272D8FF538053&GUAC_DATA_SOURCE=jwt&GUAC_ID=de41ba9a-71fb-4ab8-bcd6-9f...
Red Hat
Activities
Terminal
Nov 10 14:23
student@workstation:~
File Edit View Search Terminal Tabs Help
student@workstation:~
student@workstation:~
[student@workstation ~]$ oc autoscale deploy/httpd --min=6 --max=9 --cpu-percent=50
horizontalpodautoscaler.autoscaling/httpd autoscaled
[student@workstation ~]$ oc get hpa
NAME REFERENCE TARGETS MINPODS MAXPODS REPLICAS AGE
httpd Deployment/httpd <unknown>/50% 6 9 0 7s
[student@workstation ~]$ oc get pods
NAME READY STATUS RESTARTS AGE
httpd-64dd49bfcb-4zl4t 0/1 ContainerCreating 0 3s
httpd-64dd49bfcb-9wjs2 0/1 ContainerCreating 0 3s
httpd-64dd49bfcb-kkzq7 0/1 Pending 0 2s
httpd-64dd49bfcb-xqlxq 1/1 Running 0 111s
[student@workstation ~]$ oc get hpa
NAME REFERENCE TARGETS MINPODS MAXPODS REPLICAS AGE
httpd Deployment/httpd <unknown>/50% 6 9 6 33s
[student@workstation ~]$ oc get pods
NAME READY STATUS RESTARTS AGE
httpd-64dd49bfcb-4zl4t 1/1 Running 0 18s
httpd-64dd49bfcb-87pkr 1/1 Running 0 15s
httpd-64dd49bfcb-9wjs2 1/1 Running 0 18s
httpd-64dd49bfcb-kkzq7 1/1 Running 0 17s
httpd-64dd49bfcb-xqlxq 1/1 Running 0 2m6s
httpd-64dd49bfcb-xzqd2 1/1 Running 0 15s
[student@workstation ~]$ oc set resources deploy/httpd --limits=cpu=100m --requests=cpu=10m
deployment.apps/httpd resource requirements updated
[student@workstation ~]$



10) Create a secret in the project p7 with name magic and key-values of linux-world=Xsheflvflhvelfws

or

In this question they ask to create secret

They give two things like

Key name: linux-world

Key value: Xsheflvflhvelfws

Sol:

----------data extraction starts here----------

Question data extraction:

Given:

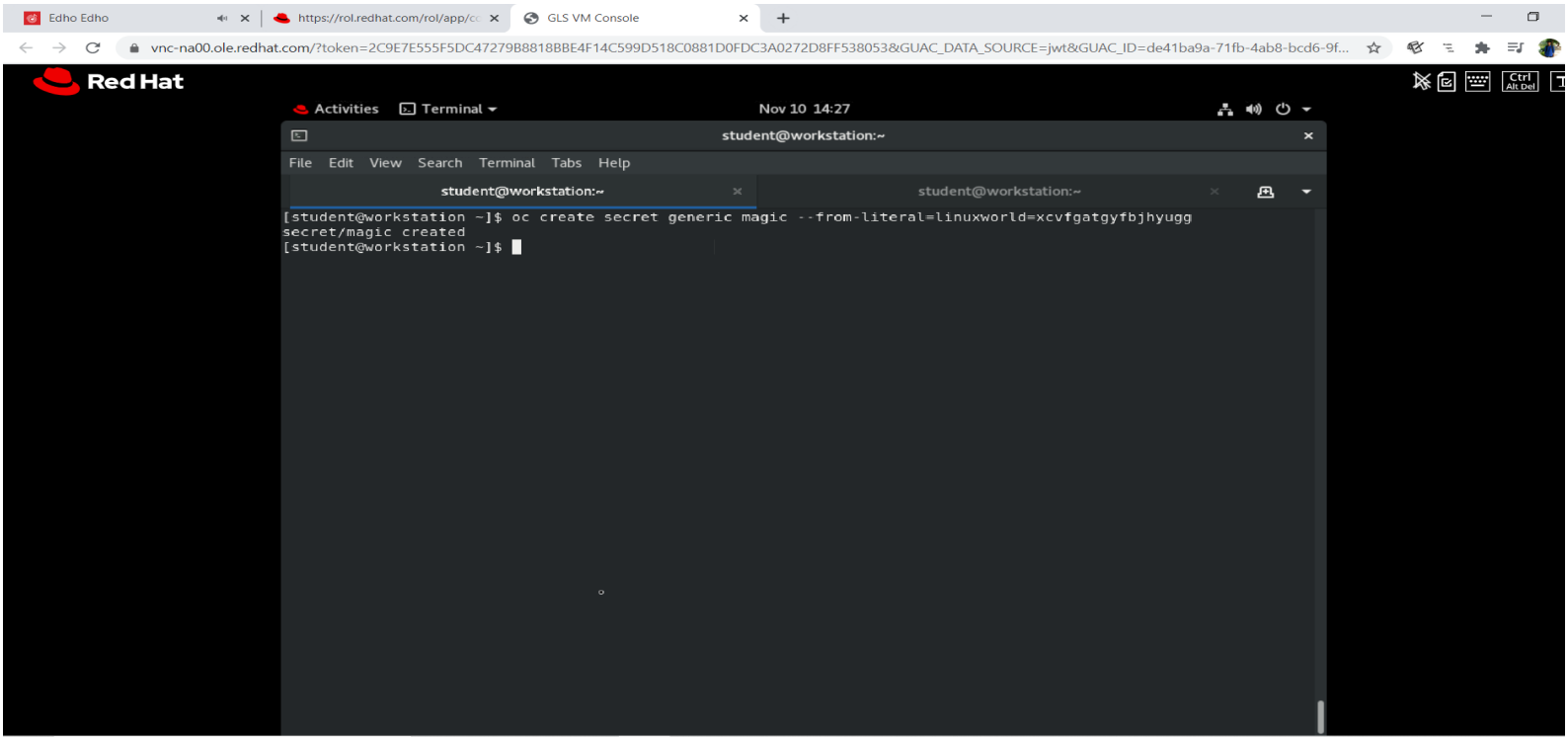
a) **Create secret named magic.**

b) **We need to do use it in project7 later.**

----------data extraction end here----------

> oc create secret generic magic --from-literal=linuxworld=Xsheflvflhvelfws

Refrence images:



11) Create a service account with name ex280-sa so that application runs with any user id

or

Create service account in the specific project

Sol:

----------data extraction starts here----------

Question data extraction:

Given:

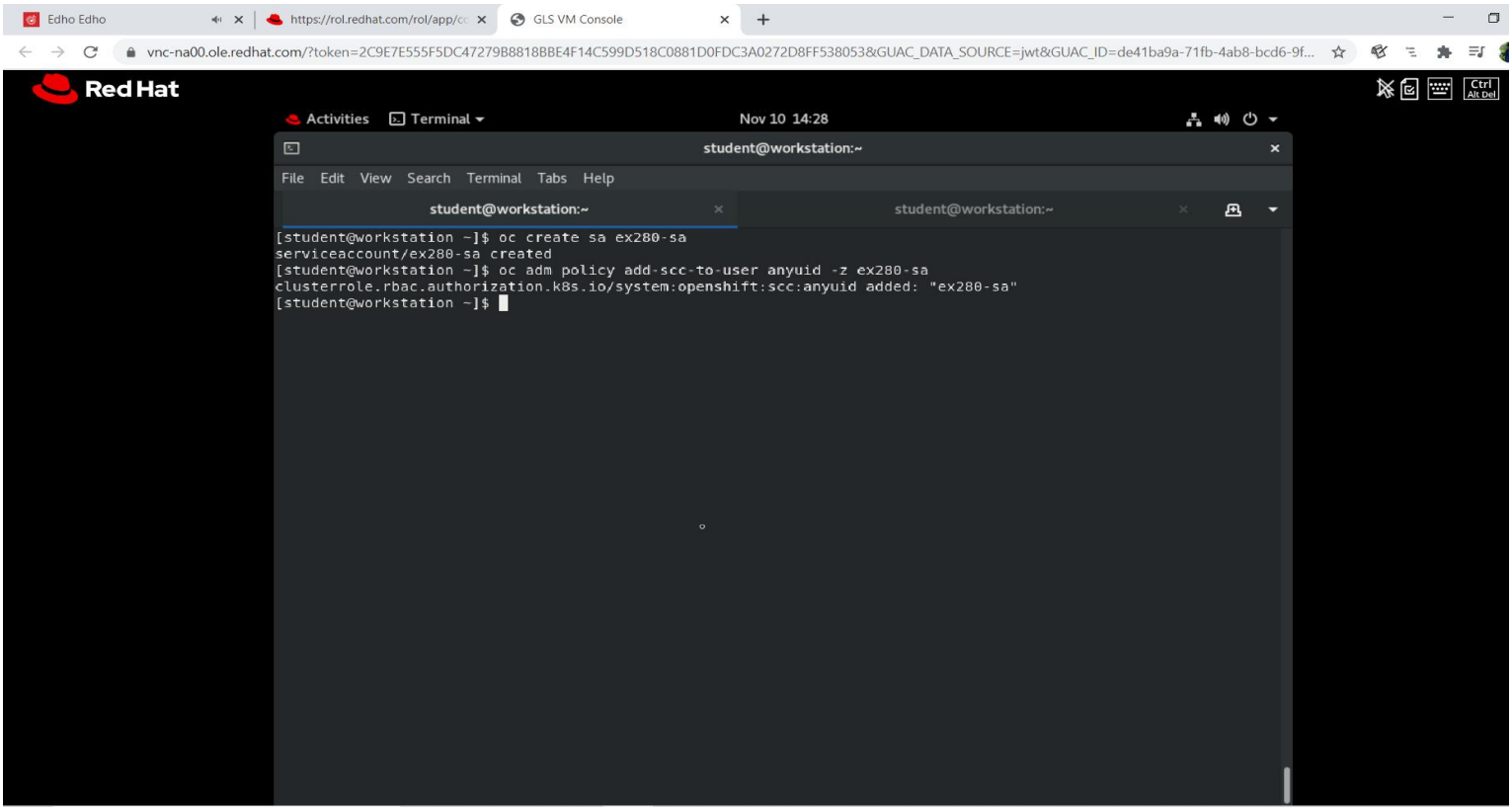
a) **Create a service account.**
b) **Name of service account should be ex280-sa and application can be run with any userid.**

----------data extraction end here----------

> oc create sa < service account name >

> oc adm policy add-scc-to-user anyuid -z < service account name >

Refrence images:



12.)

Create a secure route for the application running in project are51 with name oxcart. The applications should be available on the given url and application should use self signed certificate with the given information as "/C=SI/ST=Ljubljana/L=Ljubljana/O=Security/OU=IT Department/CN=scale-area51.apps.ocp4.example.com". The application must produces the output

or

Create secret route

Sol

----------data extraction starts here----------

Question data extraction:

Given:

a) Project is area51.
b) Application name oxcart.
c) Route url given.
d) We need to create selfsigned cert with the data:
> C=SI
> ST=Ljubljana
> L= Ljubljana
> O=Security
> OU=IT Department
> CN=scale-area51.apps.ocp4.example.com
e) Create roue

----------data extraction end here----------

> oc project area51

> oc edit deploy/oxcart

----------deployment config opens here----------

Note: search /dnsPolicy two times to reach checkpoint

```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
```

----------file data ends here----------

> openssl genrsa -out training.key 2048

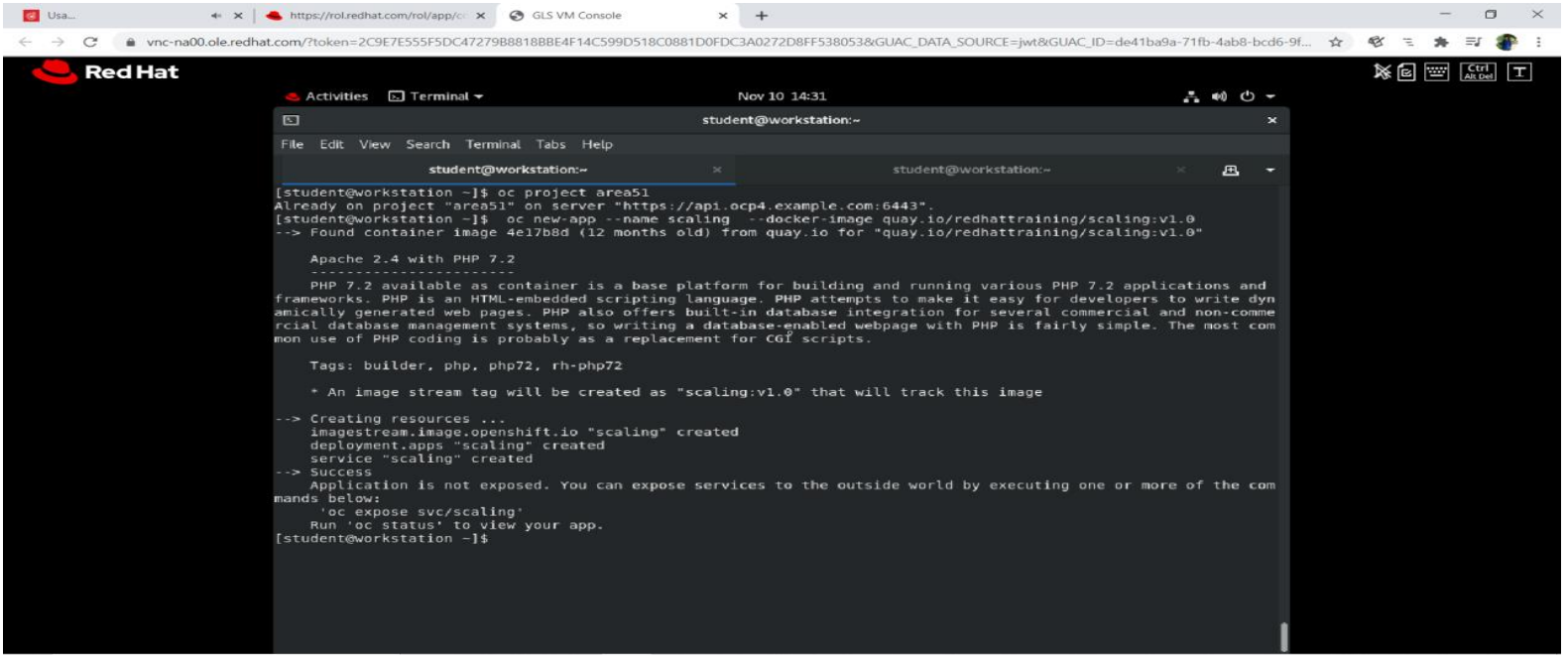
> openssl req -new -key training.key -out training.csr # here use the data extracted in d point

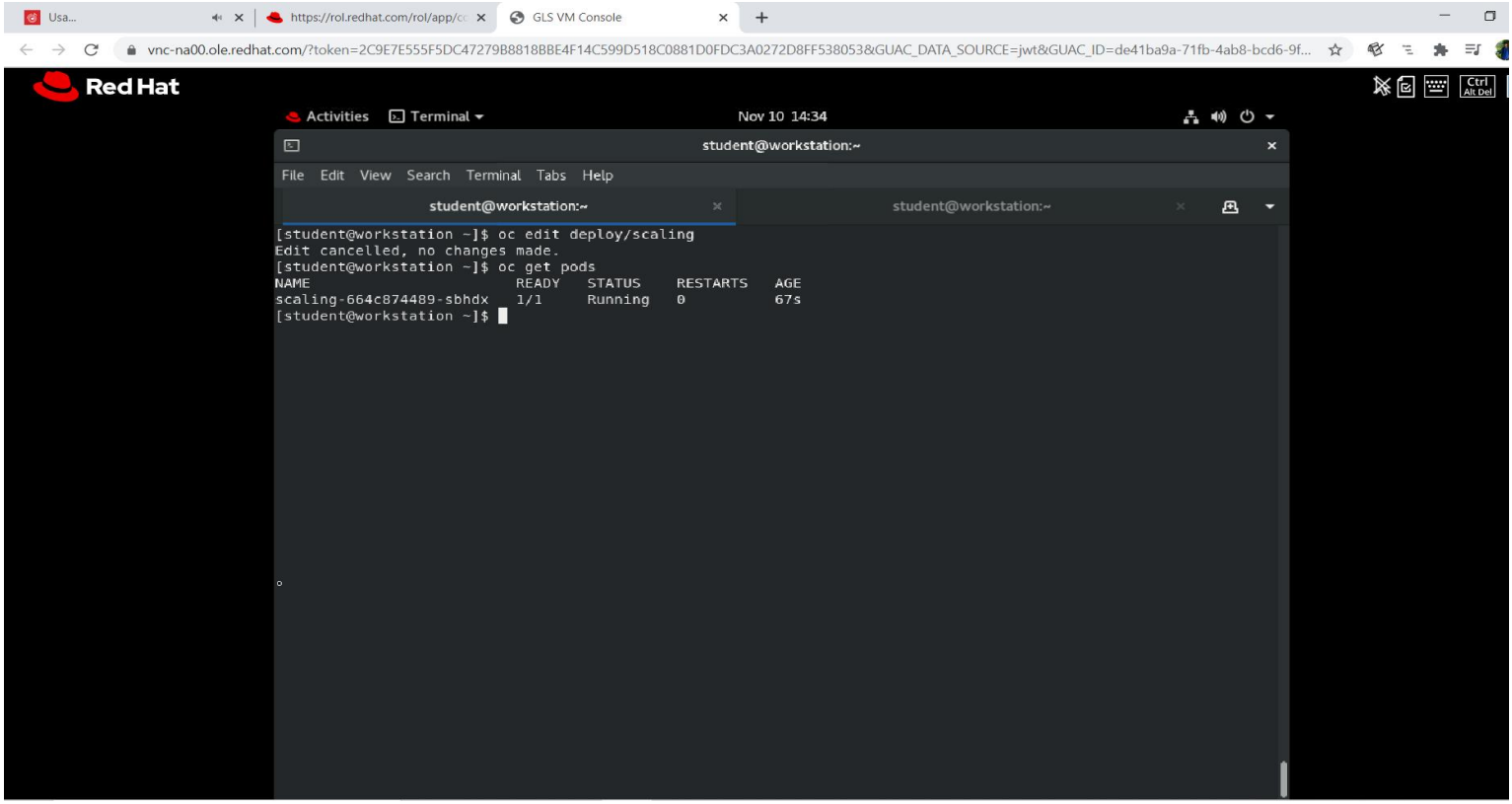
> openssl x509 -req -in training.csr -out training.crt -days 365 -signkey training.key

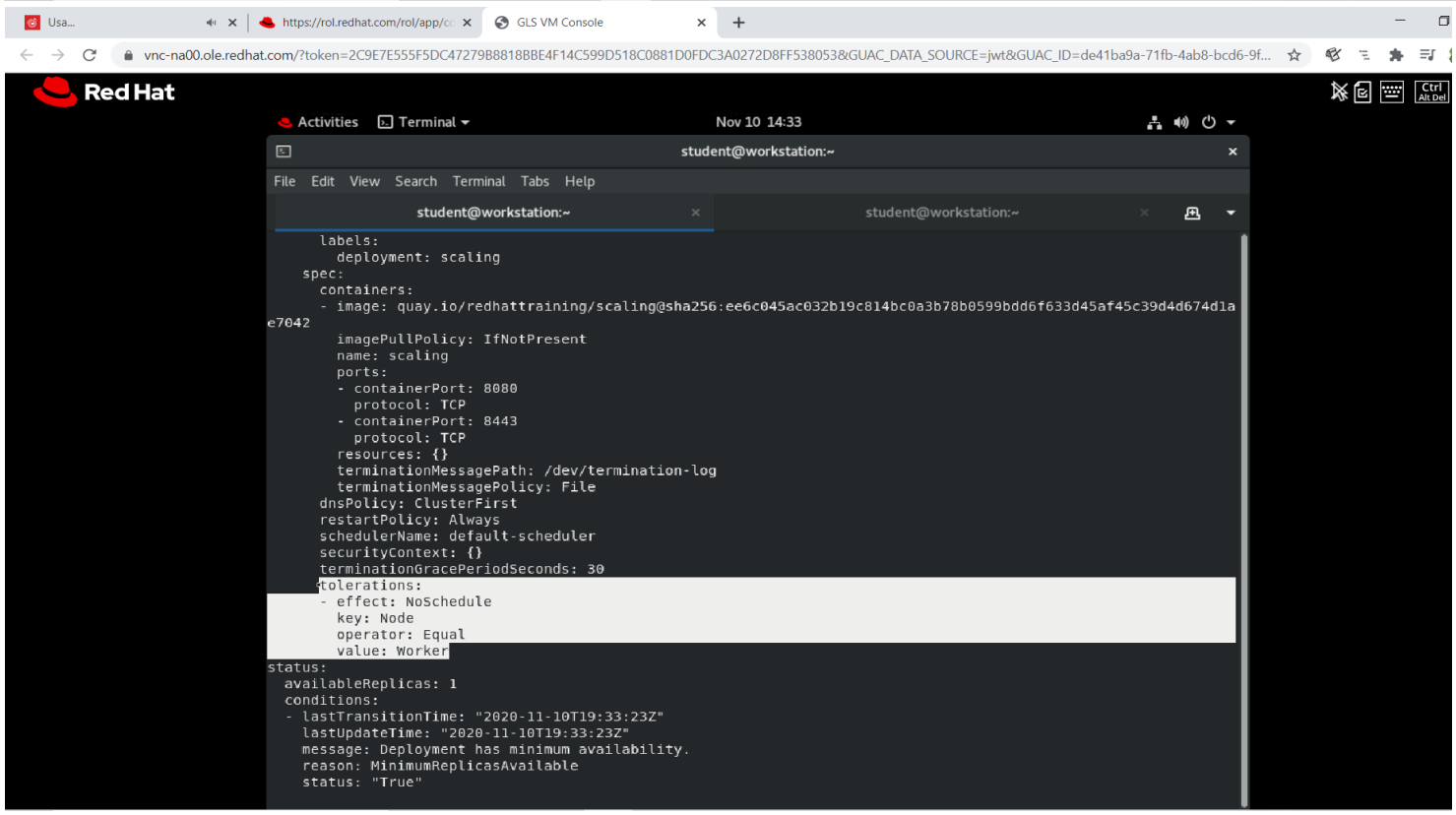
> oc create secret tls tls-certs --key training.key --cert training.crt

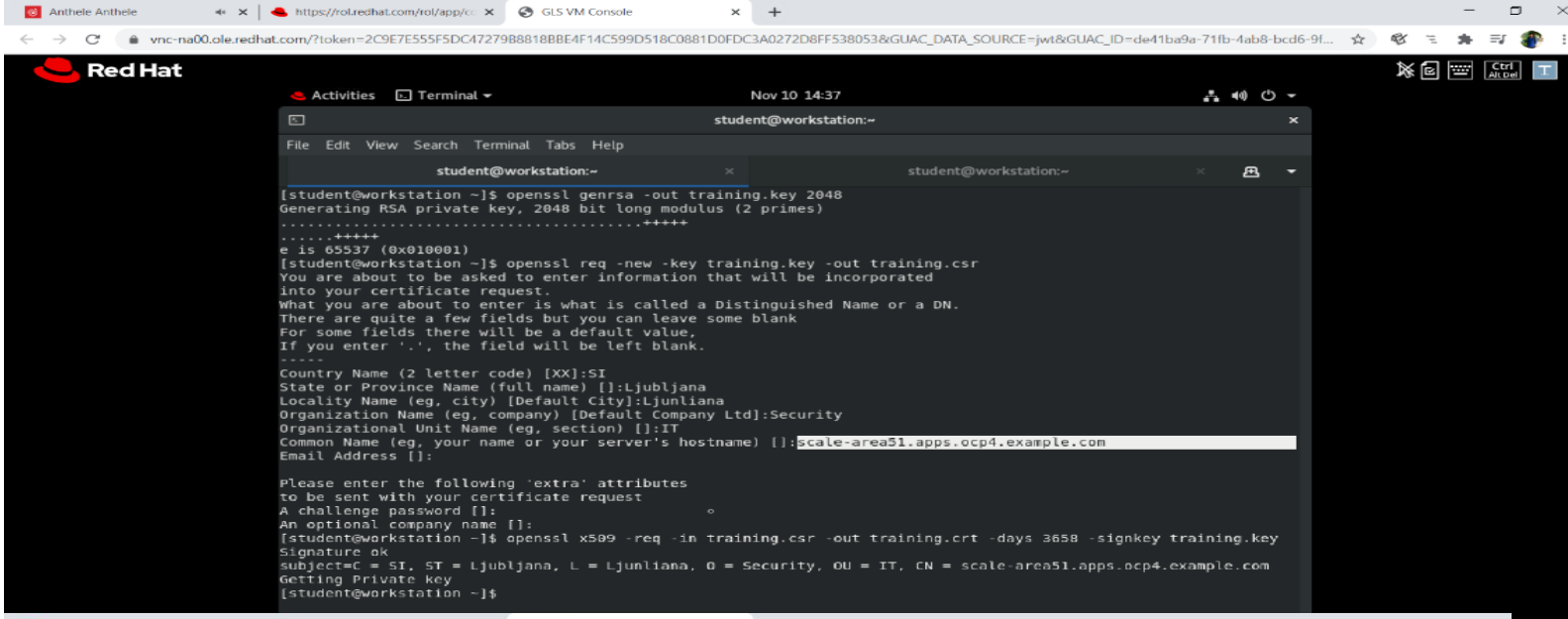
> oc create route edge scale --service scaling --hostname scale-area51.apps.ocp4.example.com --key training.key --cert training.crt

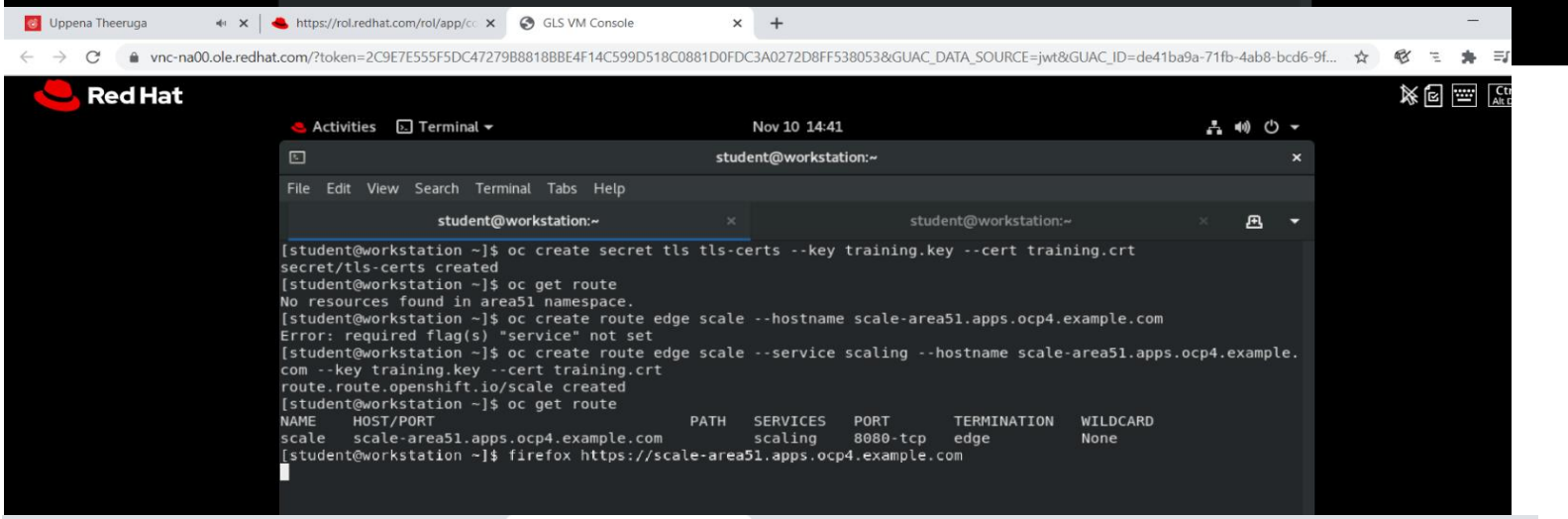
Refrence images:

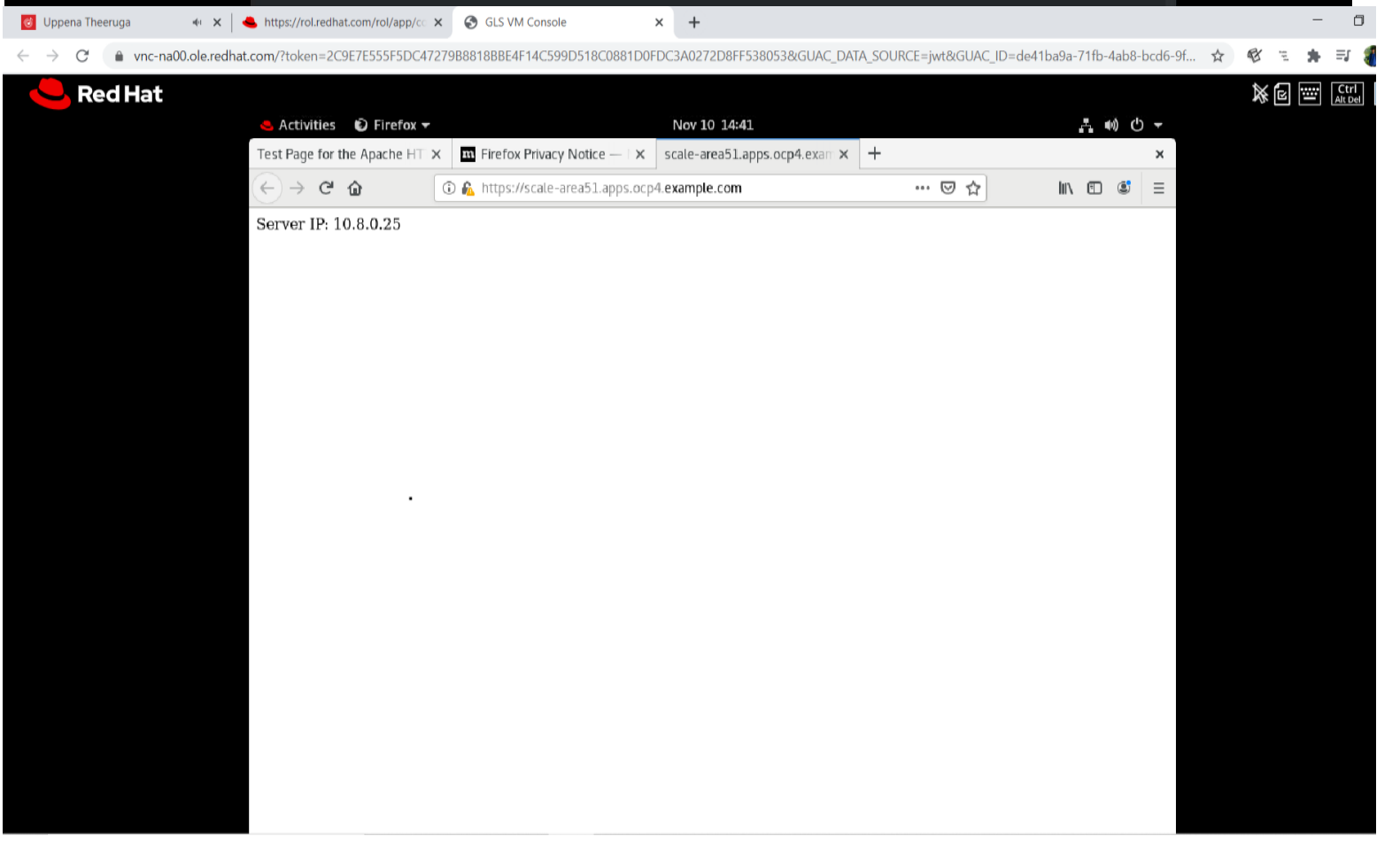


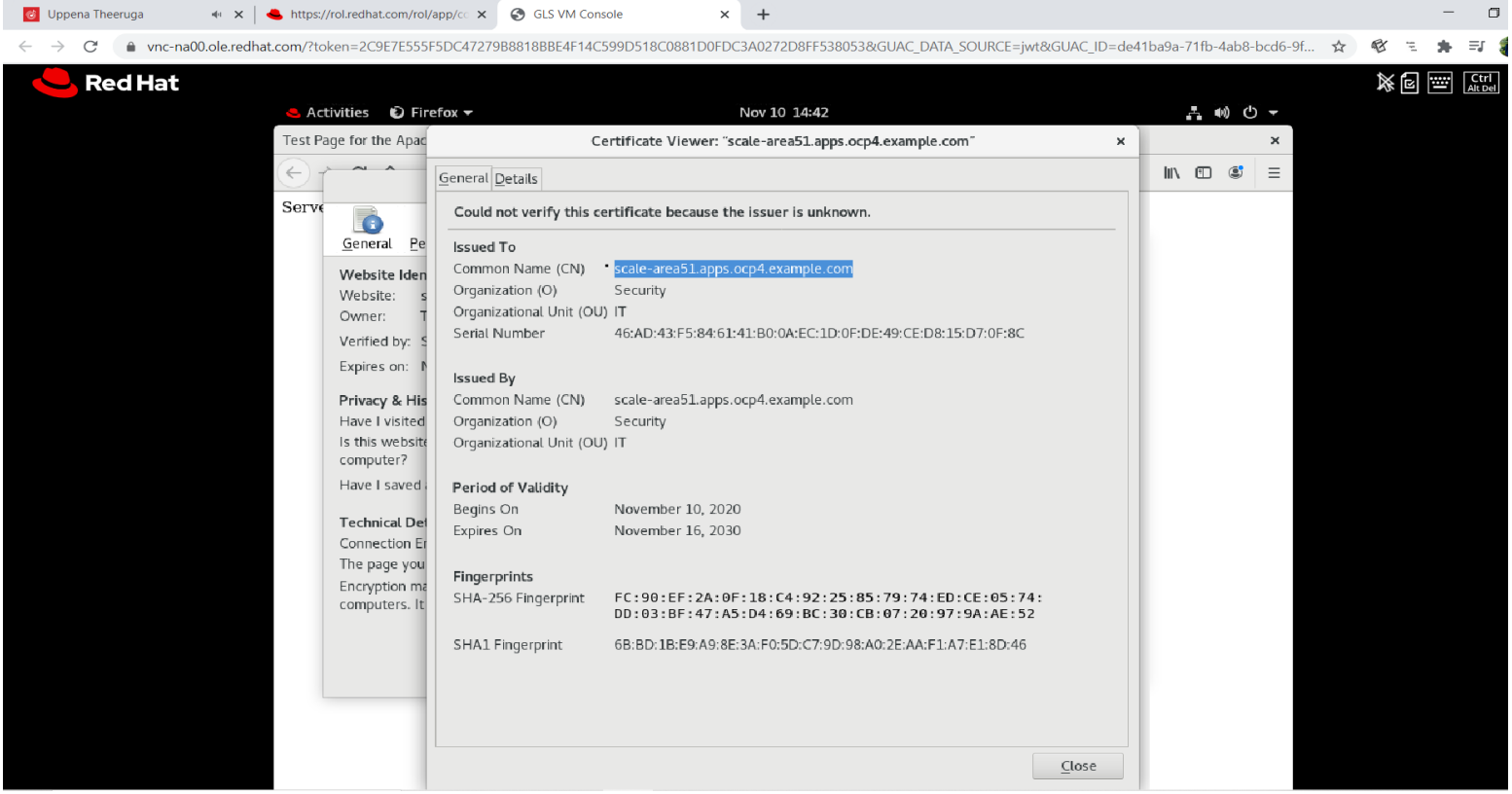

Usa...
https://rol.redhat.com/rol/app/cc
GLS VM Console
vnc-na00.ole.redhat.com/?token=2C9E7E555F5DC47279B8818BBE4F14C599D518C0881D0FDC3A0272D8FF538053&GUAC_DATA_SOURCE=jwt&GUAC_ID=de41ba9a-71fb-4ab8-bcd6-9f...
Red Hat
Activities
Terminal
Nov 10 14:34
student@workstation:~
File Edit View Search Terminal Tabs Help
student@workstation:~
student@workstation:~
[student@workstation ~]$ oc edit deploy/scaling
Edit cancelled, no changes made.
[student@workstation ~]$ oc get pods
NAME READY STATUS RESTARTS AGE
scaling-664c874489-sbhdx 1/1 Running 0 67s
[student@workstation ~]$


Usa...
https://rol.redhat.com/rol/app/cc
GLS VM Console
vnc-na00.ole.redhat.com/?token=2C9E7E555F5DC47279B8818BBE4F14C599D518C0881D0FDC3A0272D8FF538053&GUAC_DATA_SOURCE=jwt&GUAC_ID=de41ba9a-71fb-4ab8-bcd6-9f...
Red Hat
Activities
Terminal
Nov 10 14:33
student@workstation:~
File Edit View Search Terminal Tabs Help
student@workstation:~
student@workstation:~
labels:
deployment: scaling
spec:
containers:
- image: quay.io/redhattraining/scaling@sha256:ee6c045ac032b19c814bc0a3b78b0599bdd6f633d45af45c39d4d674d1ae7042
imagePullPolicy: IfNotPresent
name: scaling
ports:
- containerPort: 8080
protocol: TCP
- containerPort: 8443
protocol: TCP
resources: {}
terminationMessagePath: /dev/termination-log
terminationMessagePolicy: File
dnsPolicy: ClusterFirst
restartPolicy: Always
schedulerName: default-scheduler
securityContext: {}
terminationGracePeriodSeconds: 30
tolerations:
- effect: NoSchedule
key: Node
operator: Equal
value: Worker
status:
availableReplicas: 1
conditions:
- lastTransitionTime: "2020-11-10T19:33:23Z"
lastUpdateTime: "2020-11-10T19:33:23Z"
message: Deployment has minimum availability.
reason: MinimumReplicasAvailable
status: "True"


Red Hat
Activities
Terminal
Nov 10 14:37
student@workstation:~
File Edit View Search Terminal Tabs Help
student@workstation:~
[student@workstation ~]$ openssl genrsa -out training.key 2048
Generating RSA private key, 2048 bit long modulus (2 primes)
e is 65537 (0x010001)
[student@workstation ~]$ openssl req -new -key training.key -out training.csr
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
Country Name (2 letter code) [XX]:SI
State or Province Name (full name) []:Ljubljana
Locality Name (eg, city) [Default City]:Ljunliana
Organization Name (eg, company) [Default Company Ltd]:Security
Organizational Unit Name (eg, section) []:IT
Common Name (eg, your name or your server's hostname) []:scale-area51.apps.ocp4.example.com
Email Address []:
Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:
An optional company name []:
[student@workstation ~]$ openssl x509 -req -in training.csr -out training.crt -days 3658 -signkey training.key
Signature ok
subject=C = SI, ST = Ljubljana, L = Ljunliana, O = Security, OU = IT, CN = scale-area51.apps.ocp4.example.com
Getting Private key
[student@workstation ~]$


Red Hat
Activities
Terminal
Nov 10 14:41
student@workstation:~
File Edit View Search Terminal Tabs Help
student@workstation:~
[student@workstation ~]$ oc create secret tls tls-certs --key training.key --cert training.crt
secret/tls-certs created
[student@workstation ~]$ oc get route
No resources found in area51 namespace.
[student@workstation ~]$ oc create route edge scale --hostname scale-area51.apps.ocp4.example.com
Error: required flag(s) "service" not set
[student@workstation ~]$ oc create route edge scale --service scaling --hostname scale-area51.apps.ocp4.example.com --key training.key --cert training.crt
route.route.openshift.io/scale created
[student@workstation ~]$ oc get route
NAME HOST/PORT PATH SERVICES PORT TERMINATION WILDCARD
scale scale-area51.apps.ocp4.example.com scaling 8080-tcp edge None
[student@workstation ~]$ firefox https://scale-area51.apps.ocp4.example.com


Red Hat
Activities
Firefox
Nov 10 14:41
Test Page for the Apache HT
Firefox Privacy Notice —
scale-area51.apps.ocp4.exam
https://scale-area51.apps.ocp4.example.com
Server IP: 10.8.0.25



13) Deploy the application oranges with the secret magic created in question 10.

or

Deploy the application

Ans – assign secret value

Deploy the application with the service account ex280sa created in question 11.

or

Deploy the application

Ans – create service account

Sol:

----------data extraction starts here----------

Question data extraction:

Given:

a) Use secret named magic.
b) Use project7 for application.
c) Use service account ex280-sa
d) Application name oranges

----------data extraction end here----------

> oc project project7

> oc set env deploy/oranges --from=secret/magic

> oc set sa deploy/oranges ex280-sa

> oc edit deploy/oranges

----------deployment config opens here----------

Note: search /dnsPolicy two times to reach checkpoint

```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
---
```

----------file data ends here----------

> save the file

> oc edit deploy oranges

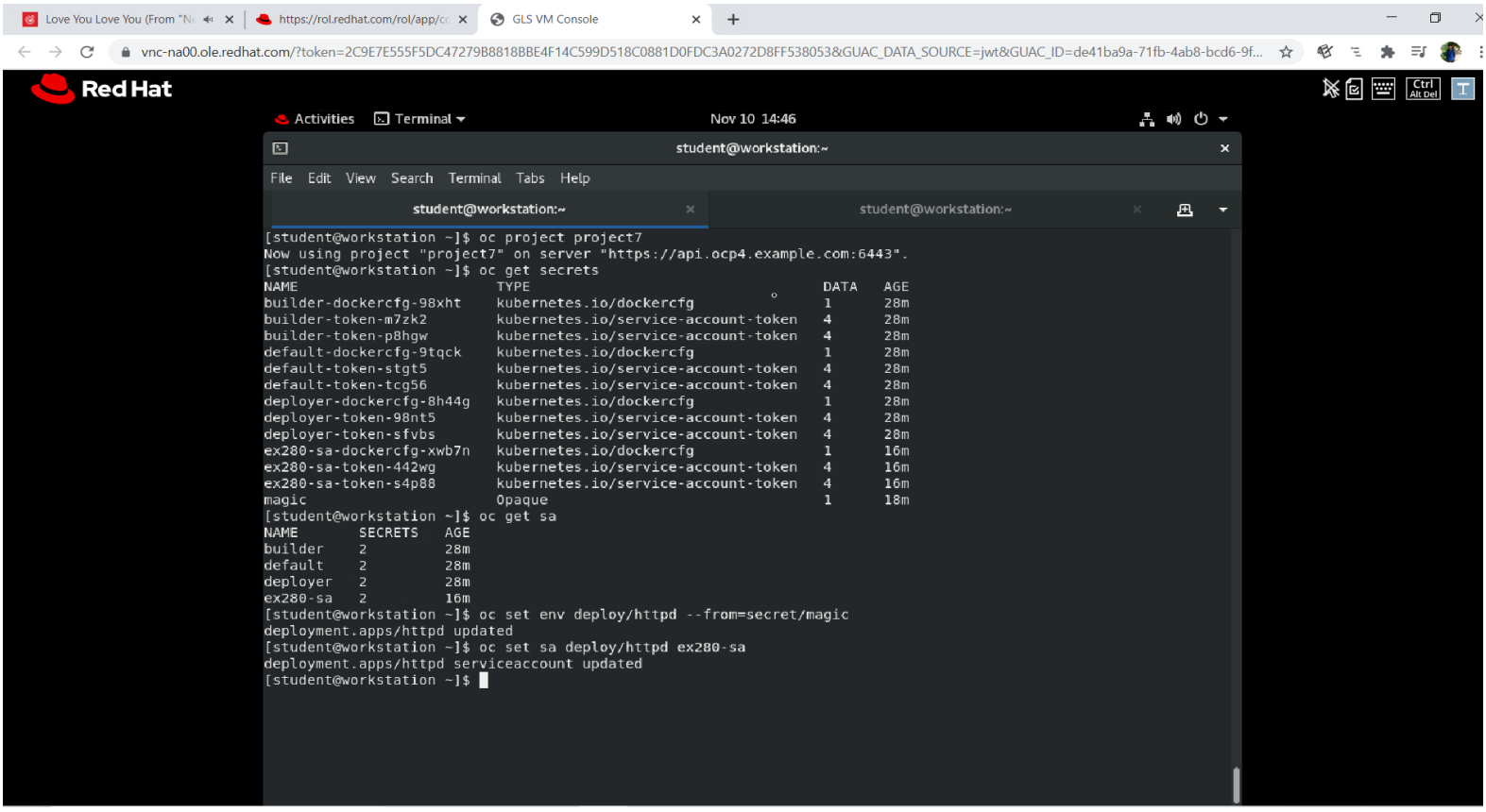
Note: check the file such that Selector: oranges

> oc edit svc oranges

Change Selector: orange to Selector: oranges

> oc get pods # all pods should be running.

Refrence images:



Check the deployment file:

Oc edit deploy oranges

Selector: orange

Oc edit svc oranges

Selector: oranges

So change the svc file

Selector: oranges to selector: orange

Final

Oc edit svc oranges

Selector: orange

The deployment selector and service selector should be same

14) Deploy the application abc in project8 and make sure the application is up and running and available on the given url.

or

Deploy the application

Ans- node label

Sol:Apply tolerations

----------data extraction starts here----------

Question data extraction:

Given:

a) **Apply toleration.**
b) **We need to do it in project8.**
c) **Label given with value Trek.**

----------data extraction end here----------

> oc get nodes -L < given label >

> oc edit deploy abc

----------deployment config opens here----------

Note: search /dnsPolicy two times to reach checkpoint

```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
```

----------file data ends here----------

> save file

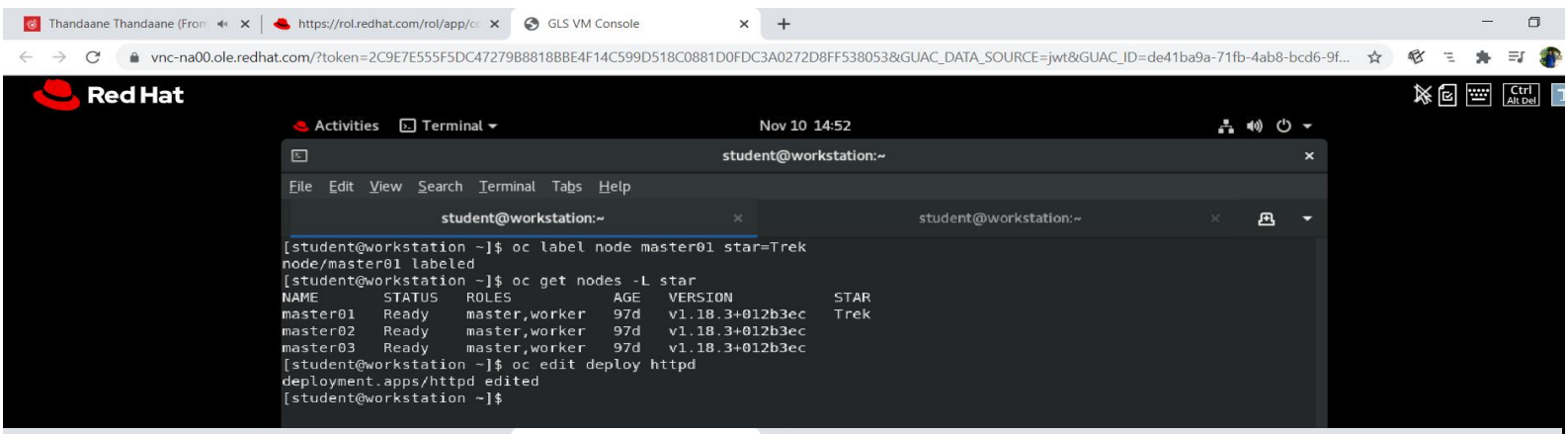
> oc edit deploy abc

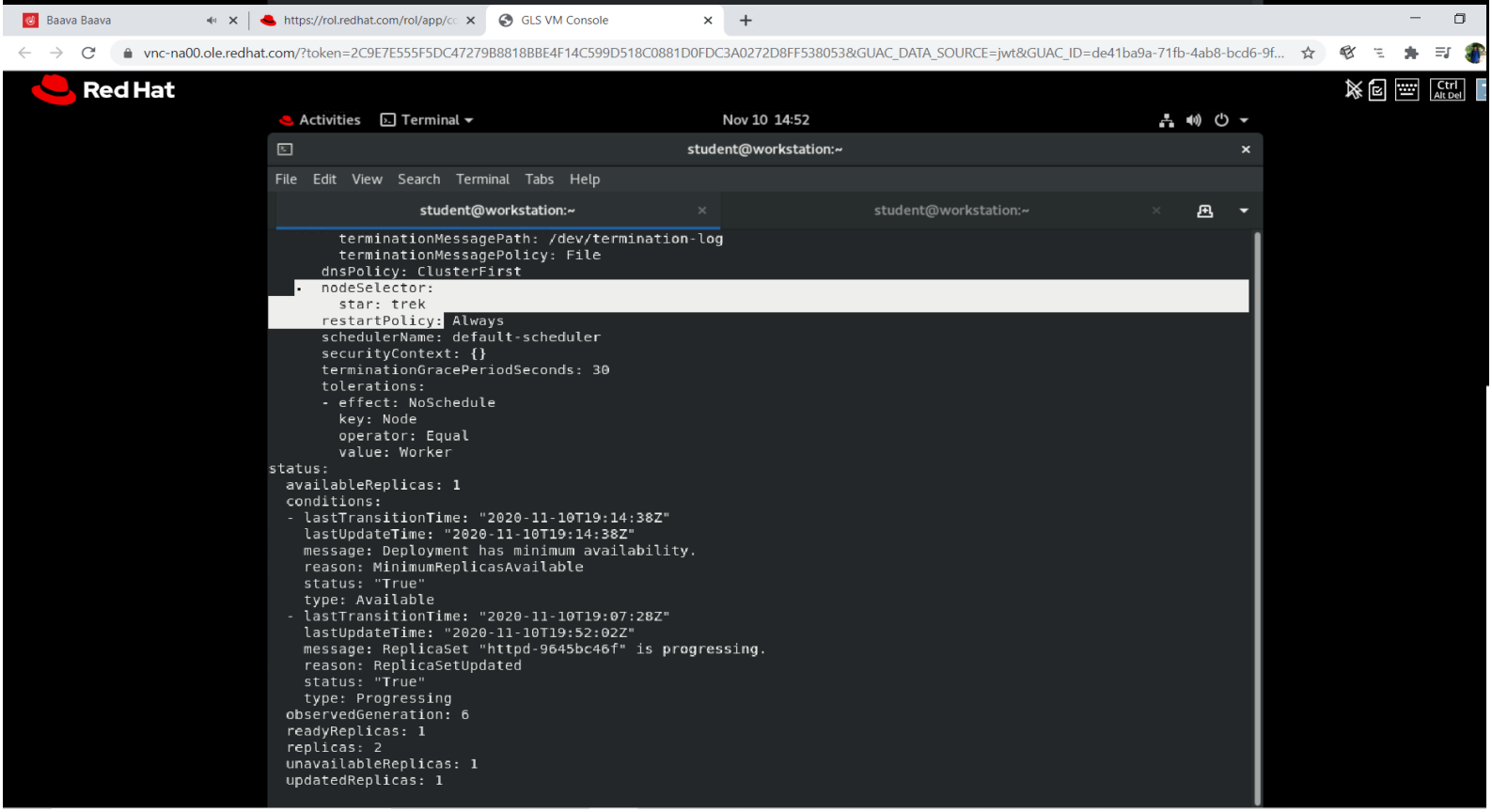
```
---
nodeSelector:
    star: trek
---
```

Replace it to:

```
---
nodeSelector:
    star: Trek
---
```

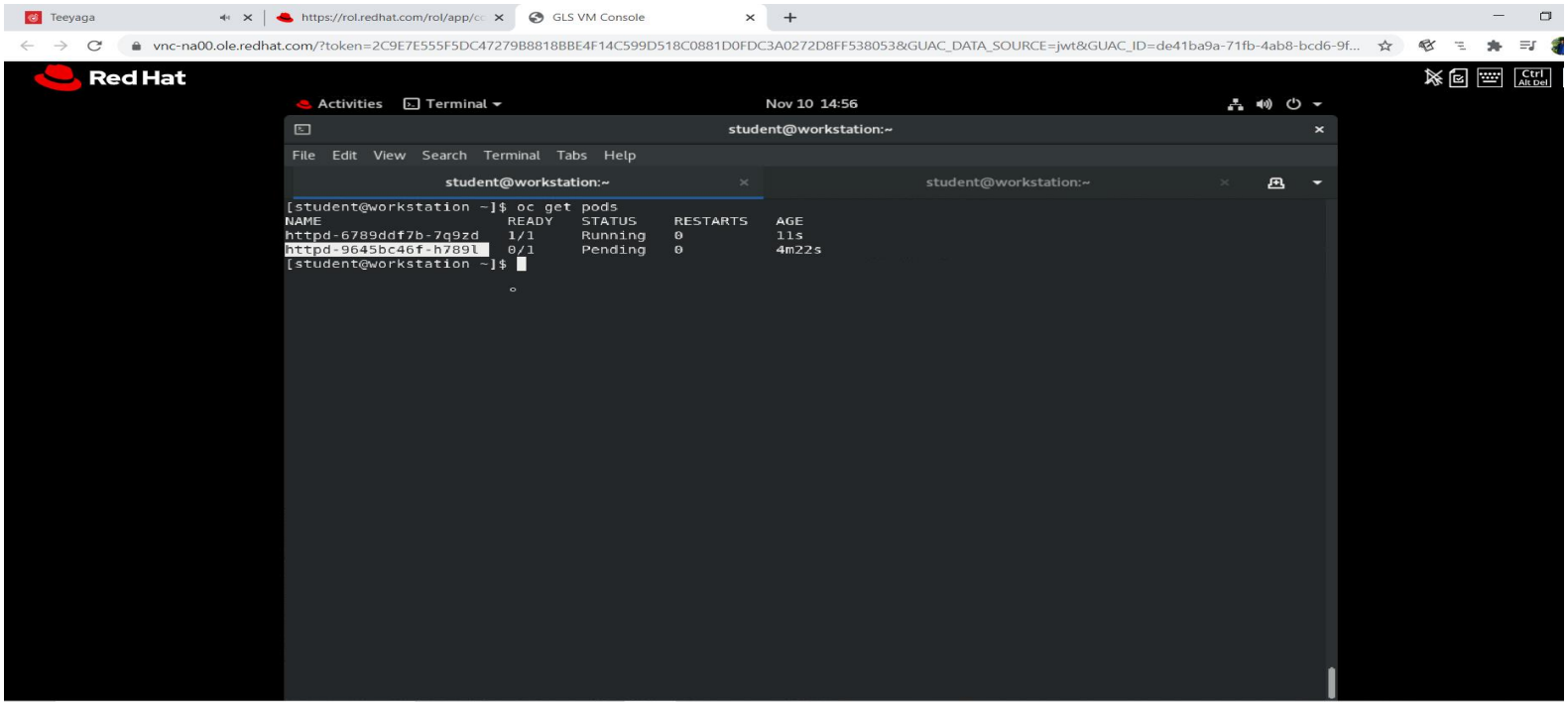
Refrence images:





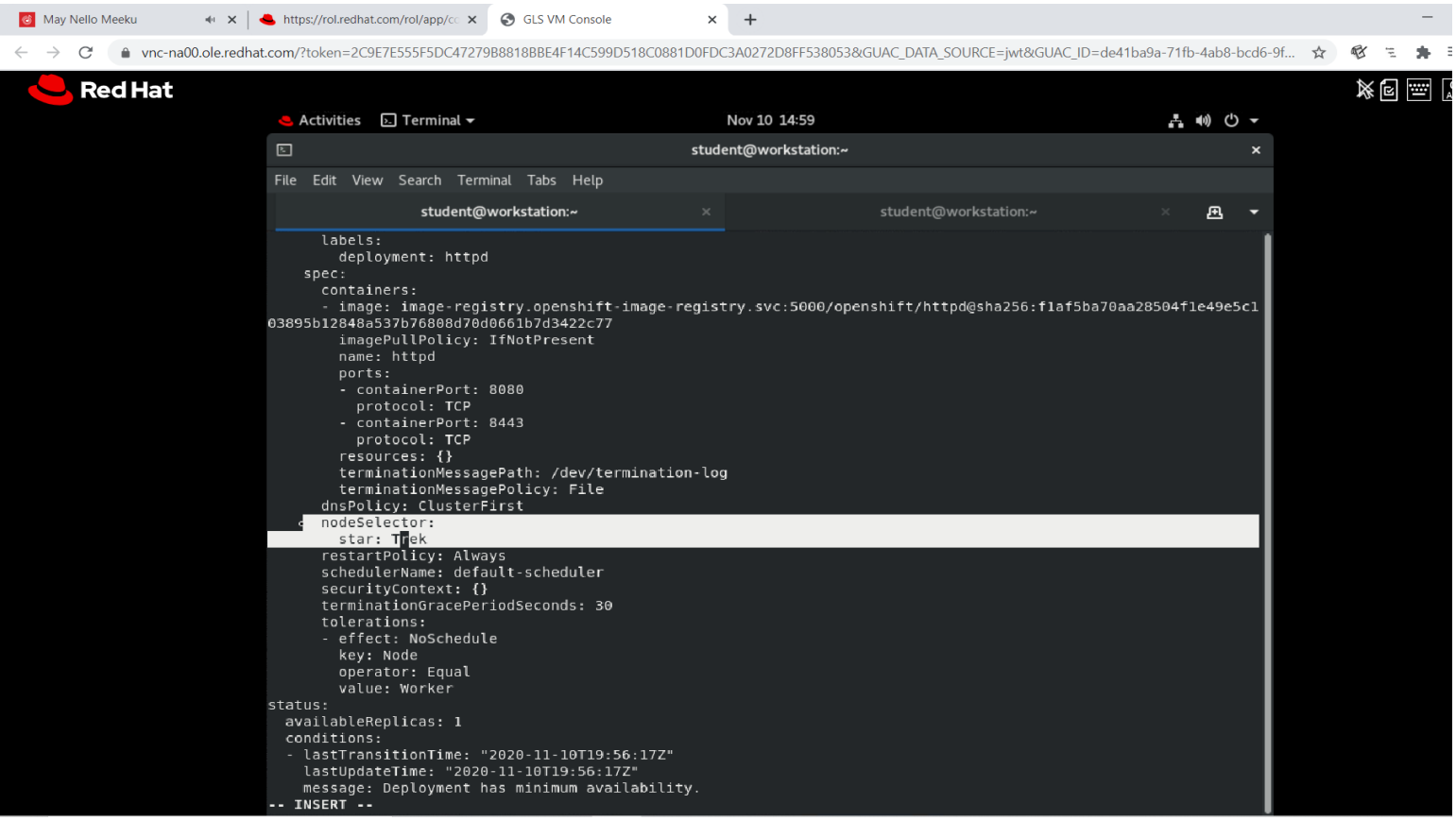
In exam, nodeselector → star: trek, actually star: Trek

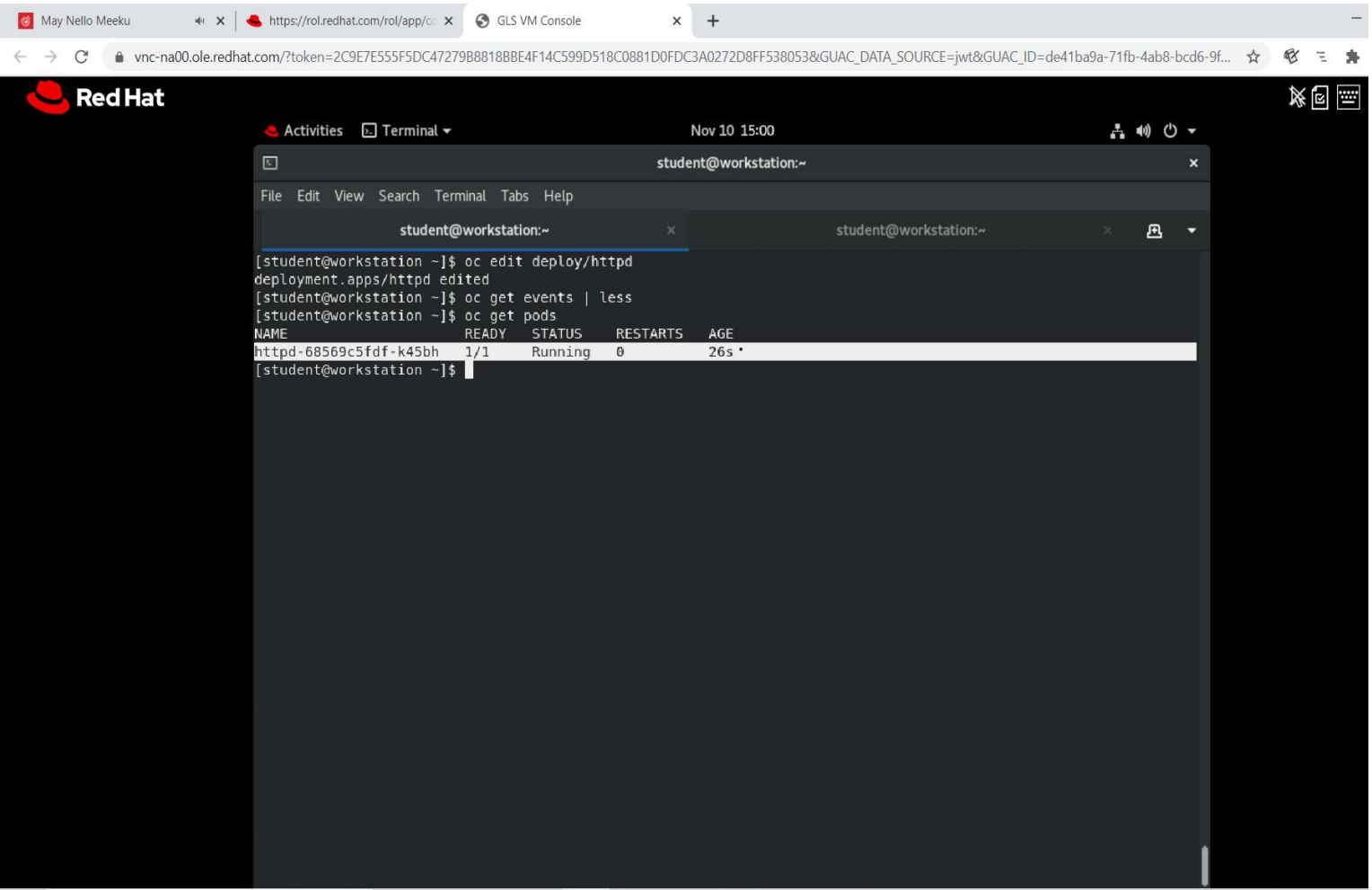
We can check the node selector using oc get nodes -L star



Here pod is pending, because, no such node with star: trek
So edit the deployment

Oc edit deploy/httpd
nodeSelector:
star: Trek





15) Memory Insufficient error in project ab for application httpd

Sol)

ADD toleration

----------data extraction starts here----------

Question data extraction:

Given:

a) Use project ab.
b) Apply toleration.
c) Change request memory to 1Gi.
d) Application httpd.

----------data extraction end here----------

> oc project ab

> oc edit deploy/httpd

----------deployment config opens here----------

Note: search /dnsPolicy two times to reach checkpoint

```
---
tolerations:
- effect: NoSchedule
  key: Node
  value: Worker
  operator: equal
---
dnsPolicy: ClusterFirst   # Checkpoint, write data above this keyword.
```

----------file data ends here----------

> save the file

> oc edit deploy/httpd

----------deployment config opens here----------

Note: search /resources and check if there's the requested amount should not be very high like:

```
---
resources:
  limits:
      cpu: 100m
      memory: 100Gi
  requests:
      cpu: 10m
      memory: 80Gi
---
```

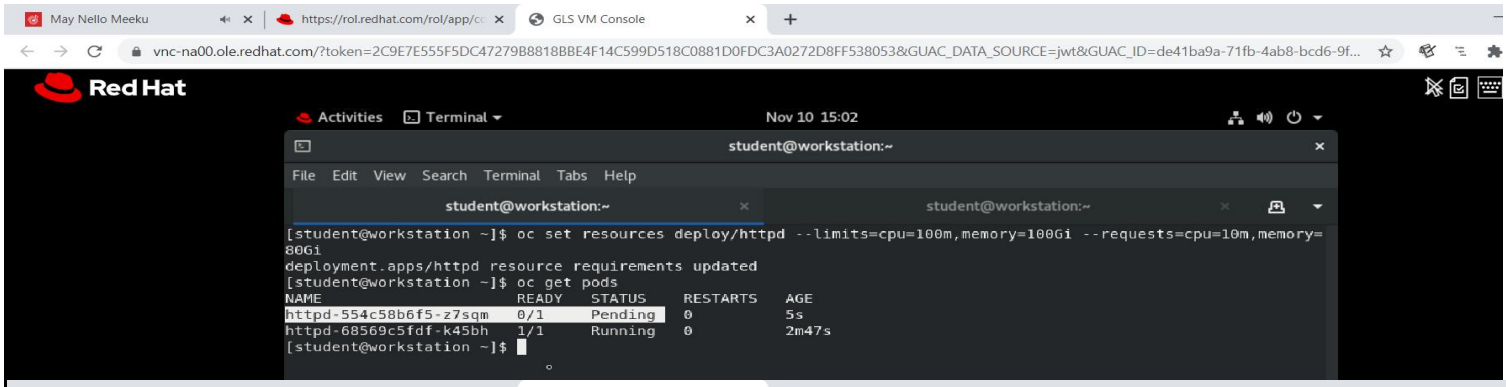
----------change the values to----------

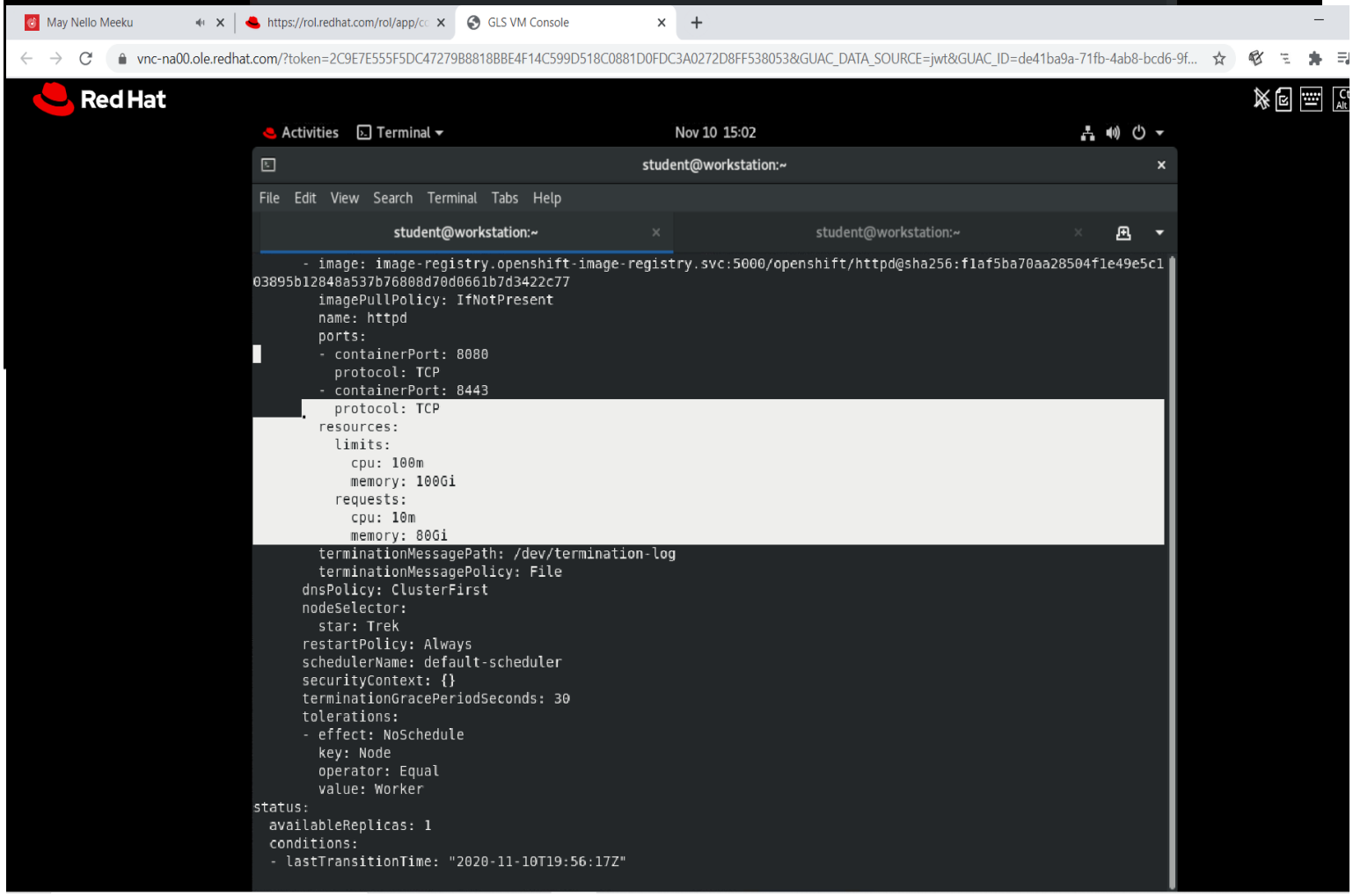
```
---
resources:
  limits:
      cpu: 100m
      memory: 100Gi
  requests:
      cpu: 10m
      memory: 1Gi
---
```

----------file data ends here----------

> save the file.

> oc get pods.





The node doesn't contain 80Gi of memory,
So change 80Gi to 1Gi

