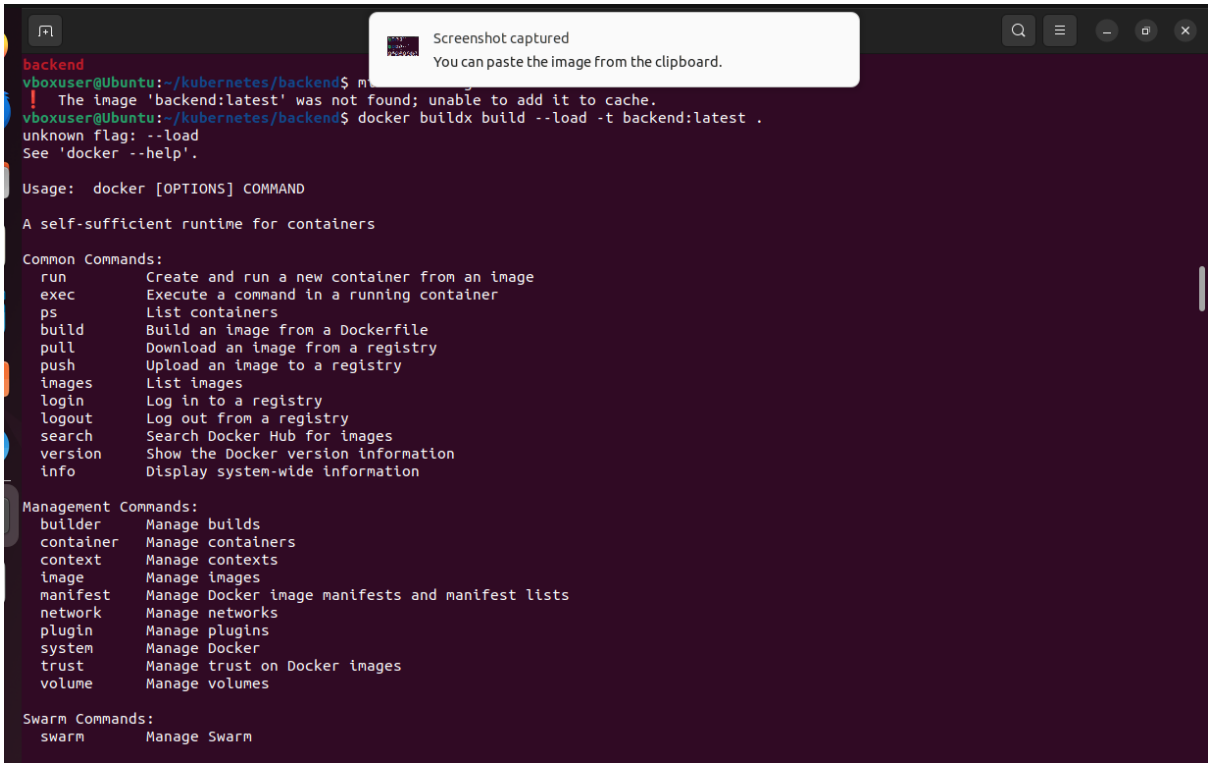
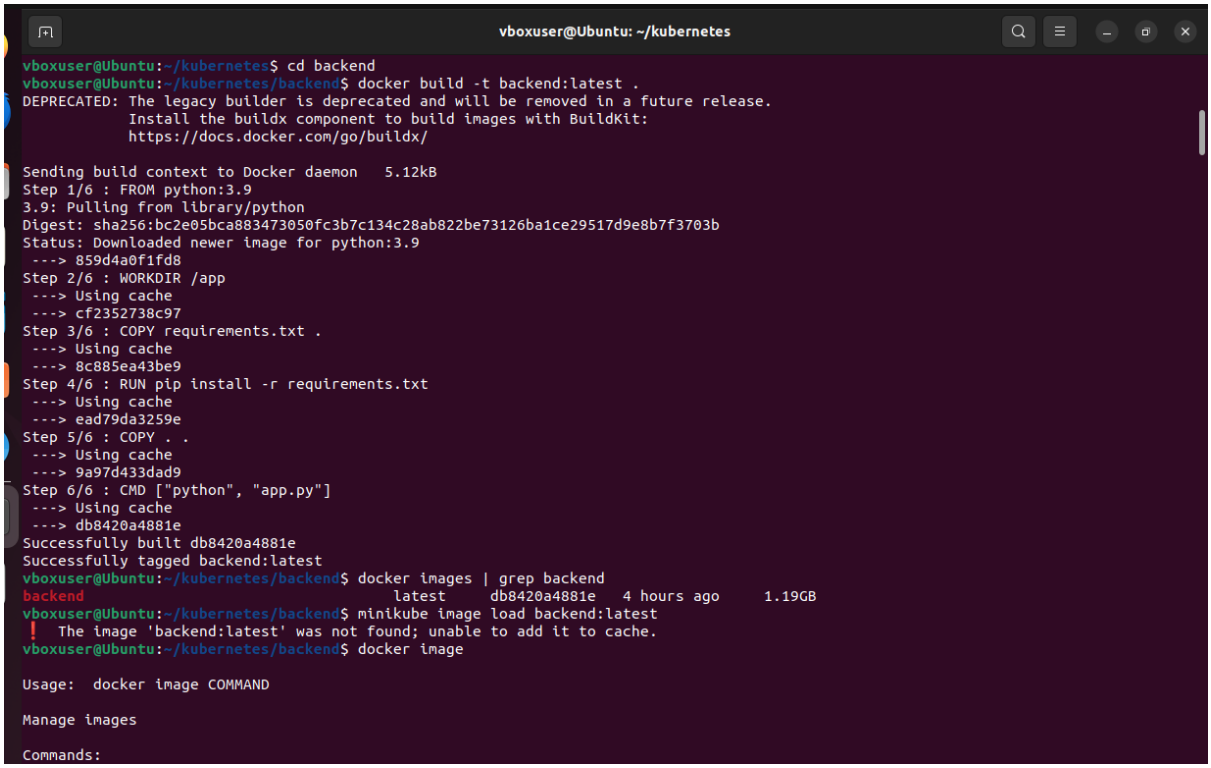
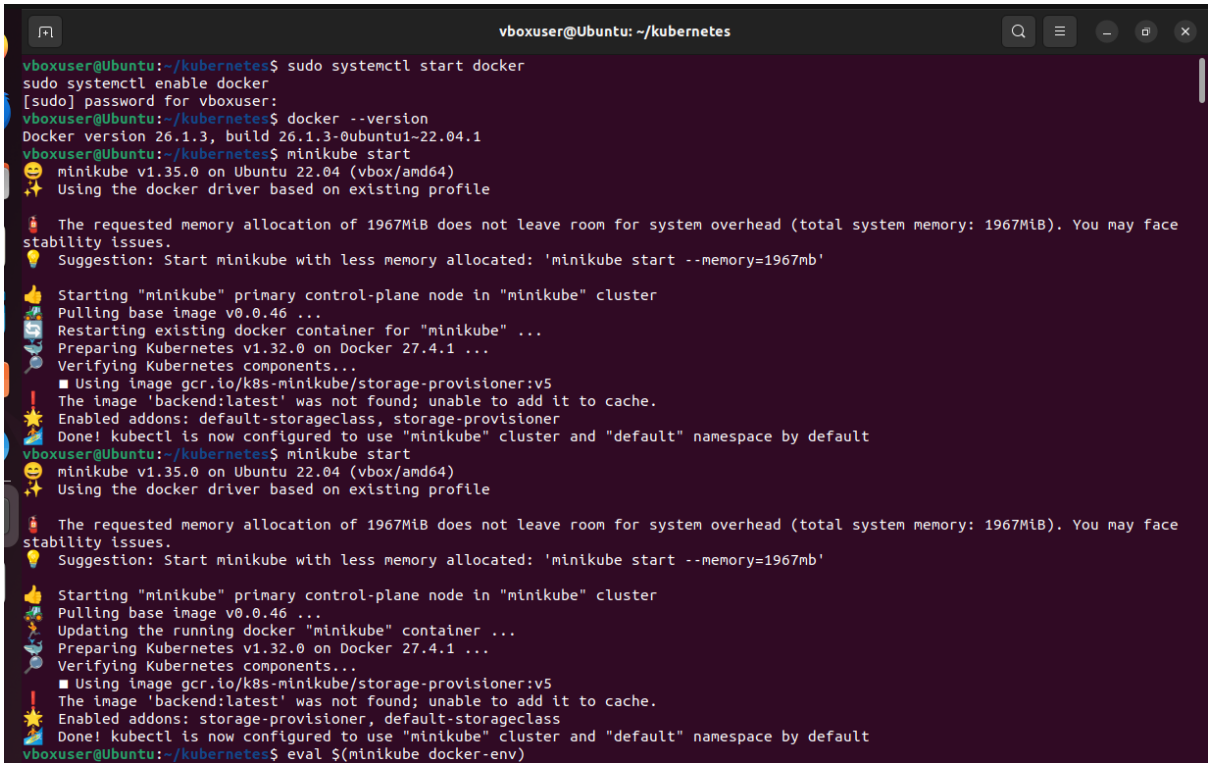
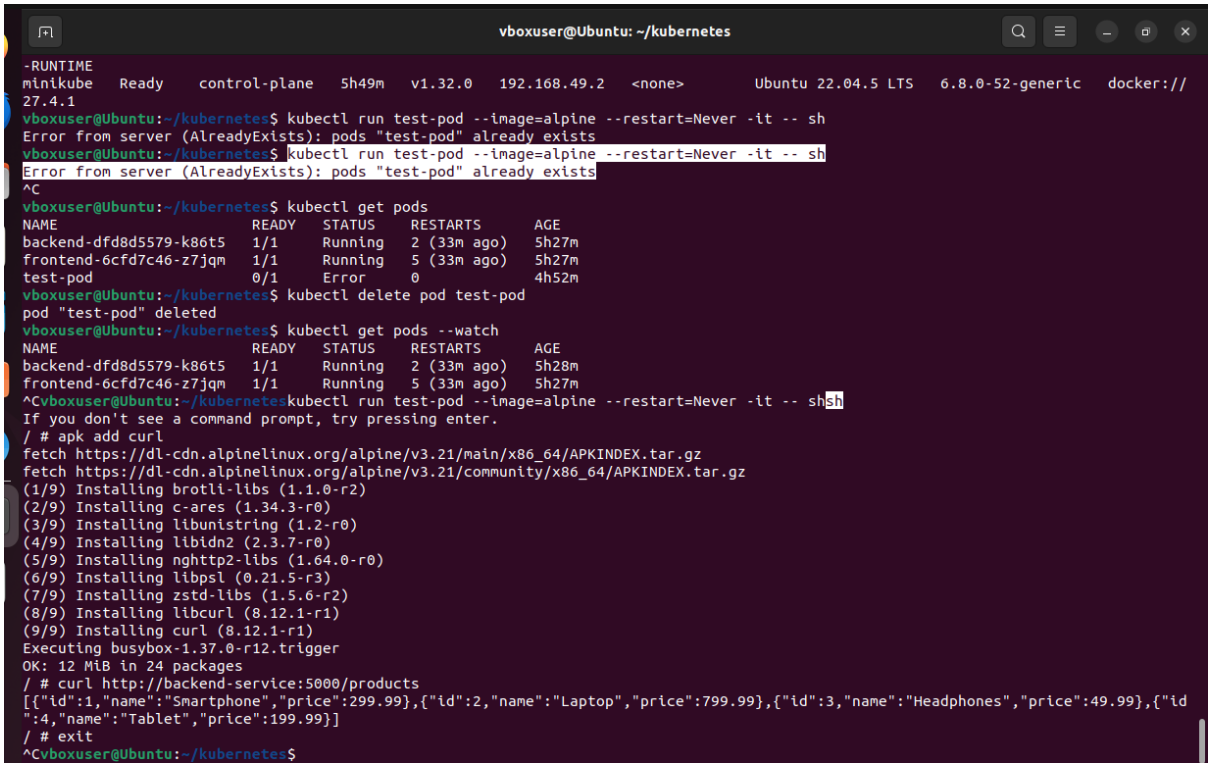
Devops day 3


Screenshot captured
You can paste the image from the clipboard.
backend
vboxuser@Ubuntu:~/kubernetes/backend$ m
! The image 'backend:latest' was not found; unable to add it to cache.
vboxuser@Ubuntu:~/kubernetes/backend$ docker buildx build --load -t backend:latest .
unknown flag: --load
See 'docker --help'.
Usage: docker [OPTIONS] COMMAND
A self-sufficient runtime for containers
Common Commands:
run Create and run a new container from an image
exec Execute a command in a running container
ps List containers
build Build an image from a Dockerfile
pull Download an image from a registry
push Upload an image to a registry
images List images
login Log in to a registry
logout Log out from a registry
search Search Docker Hub for images
version Show the Docker version information
info Display system-wide information
Management Commands:
builder Manage builds
container Manage containers
context Manage contexts
image Manage images
manifest Manage Docker image manifests and manifest lists
network Manage networks
plugin Manage plugins
system Manage Docker
trust Manage trust on Docker images
volume Manage volumes
Swarm Commands:
swarm Manage Swarm

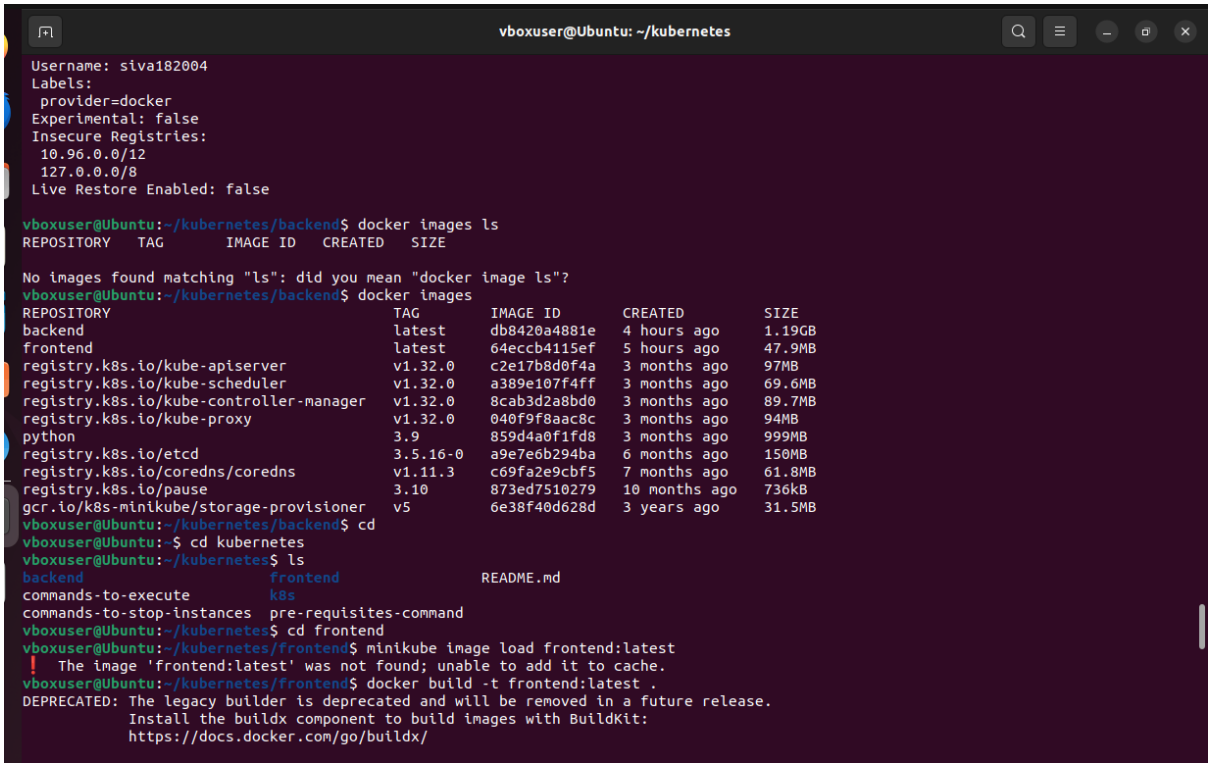

vboxuser@Ubuntu: ~/kubernetes
vboxuser@Ubuntu:~/kubernetes$ cd backend
vboxuser@Ubuntu:~/kubernetes/backend$ docker build -t backend:latest .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
Sending build context to Docker daemon 5.12kB
Step 1/6 : FROM python:3.9
3.9: Pulling from library/python
Digest: sha256:bc2e05bca883473050fc3b7c134c28ab822be73126ba1ce29517d9e8b7f3703b
Status: Downloaded newer image for python:3.9
---> 859d4a0f1fd8
Step 2/6 : WORKDIR /app
---> Using cache
---> cf2352738c97
Step 3/6 : COPY requirements.txt .
---> Using cache
---> 8c885ea43be9
Step 4/6 : RUN pip install -r requirements.txt
---> Using cache
---> ead79da3259e
Step 5/6 : COPY . .
---> Using cache
---> 9a97d433dad9
Step 6/6 : CMD ["python", "app.py"]
---> Using cache
---> db8420a4881e
Successfully built db8420a4881e
Successfully tagged backend:latest
vboxuser@Ubuntu:~/kubernetes/backend$ docker images | grep backend
backend latest db8420a4881e 4 hours ago 1.19GB
vboxuser@Ubuntu:~/kubernetes/backend$ minikube image load backend:latest
! The image 'backend:latest' was not found; unable to add it to cache.
vboxuser@Ubuntu:~/kubernetes/backend$ docker image
Usage: docker image COMMAND
Manage images
Commands:

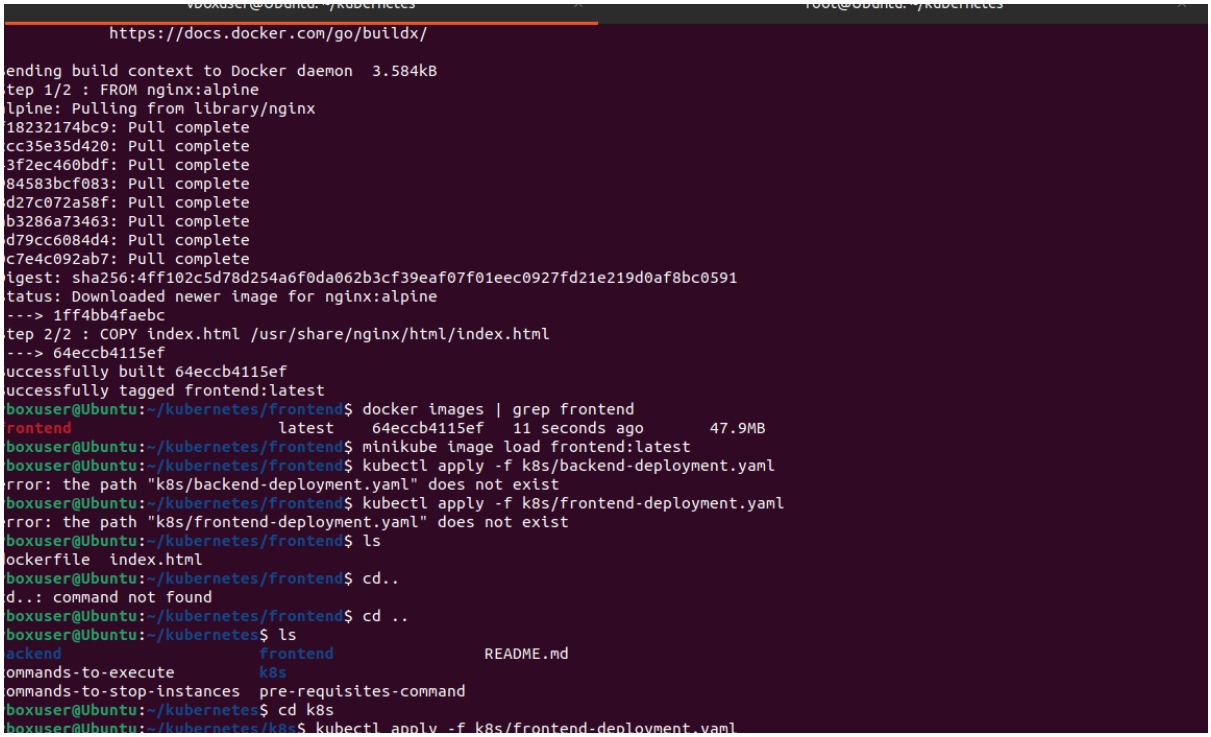


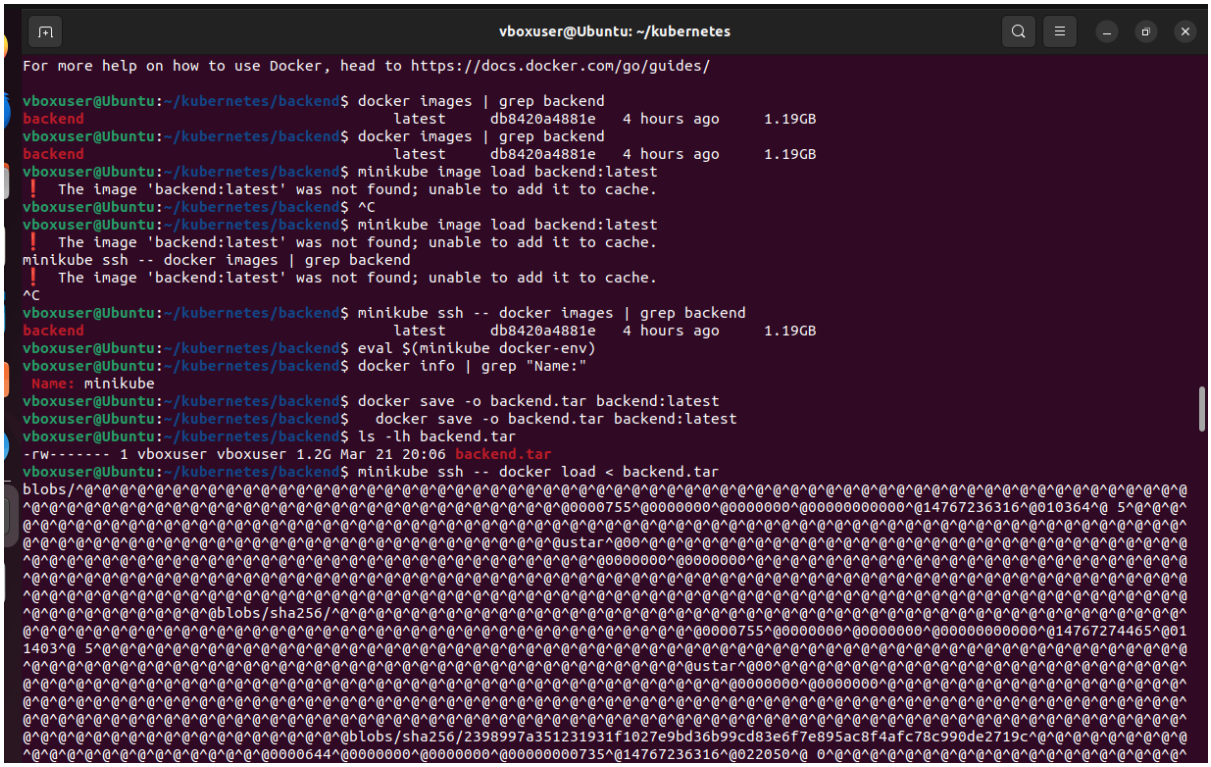

```
---> a6010cc470a0
uccessfully built a6010cc470a0
uccessfully tagged backend:latest
boxuser@Ubuntu:~/kubernetes/backend$ cd ..
boxuser@Ubuntu:~/kubernetes$ minikube image load frontend:latest
boxuser@Ubuntu:~/kubernetes$ docker images | grep backend
ackend                       latest    a6010cc470a0   42 minutes ago   1.19GB
boxuser@Ubuntu:~/kubernetes$ docker images | grep frontend
rontend                      latest    64eccb4115ef   41 minutes ago   47.9MB
boxuser@Ubuntu:~/kubernetes$ kubectl apply -f k8s/backend-deployment.yaml
eployment.apps/backend unchanged
boxuser@Ubuntu:~/kubernetes$ kubectl apply -f k8s/frontend-deployment.yaml
eployment.apps/frontend unchanged
boxuser@Ubuntu:~/kubernetes$ kubectl apply -f k8s/service.yaml
ervice/backend-service unchanged
ervice/frontend-service unchanged
boxuser@Ubuntu:~/kubernetes$ kubectl apply -f k8s/configmap.yaml
onfigmap/backend-config unchanged
boxuser@Ubuntu:~/kubernetes$ kubectl get pods
AME                       READY   STATUS             RESTARTS        AGE
ackend-dfd8d5579-k86t5     0/1     ErrImageNeverPull  0               35m
rontend-6cfd7c46-z7jqm     1/1     Running            2 (4m36s ago)   34m
boxuser@Ubuntu:~/kubernetes$ kubectl get svc
AME               TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)          AGE
ackend-service    ClusterIP   10.102.215.206   <none>        5000/TCP         34m
rontend-service   NodePort    10.101.198.192   <none>        3000:32759/TCP   34m
ubernetes         ClusterIP   10.96.0.1        <none>        443/TCP          59m
boxuser@Ubuntu:~/kubernetes$ minikube service frontend-service --url
ttp://192.168.49.2:32759
boxuser@Ubuntu:~/kubernetes$ kubectl get nodes -o wide
AME       STATUS   ROLES           AGE   VERSION   INTERNAL-IP    EXTERNAL-IP   OS-IMAGE             KERNEL-VERSION     CONTAINE
NTIME
inikube   Ready    control-plane   59m   v1.32.0   192.168.49.2   <none>        Ubuntu 22.04.5 LTS   6.8.0-52-generic   docker:/
4.1
boxuser@Ubuntu:~/kubernetes$ kubectl run test-pod --image=alpine --restart=Never -it -- sh
f you don't see a command prompt, try pressing enter.
 # apk add curl
etch https://dl-cdn.alpinelinux.org/alpine/v3.21/main/x86_64/APKINDEX.tar.gz
```

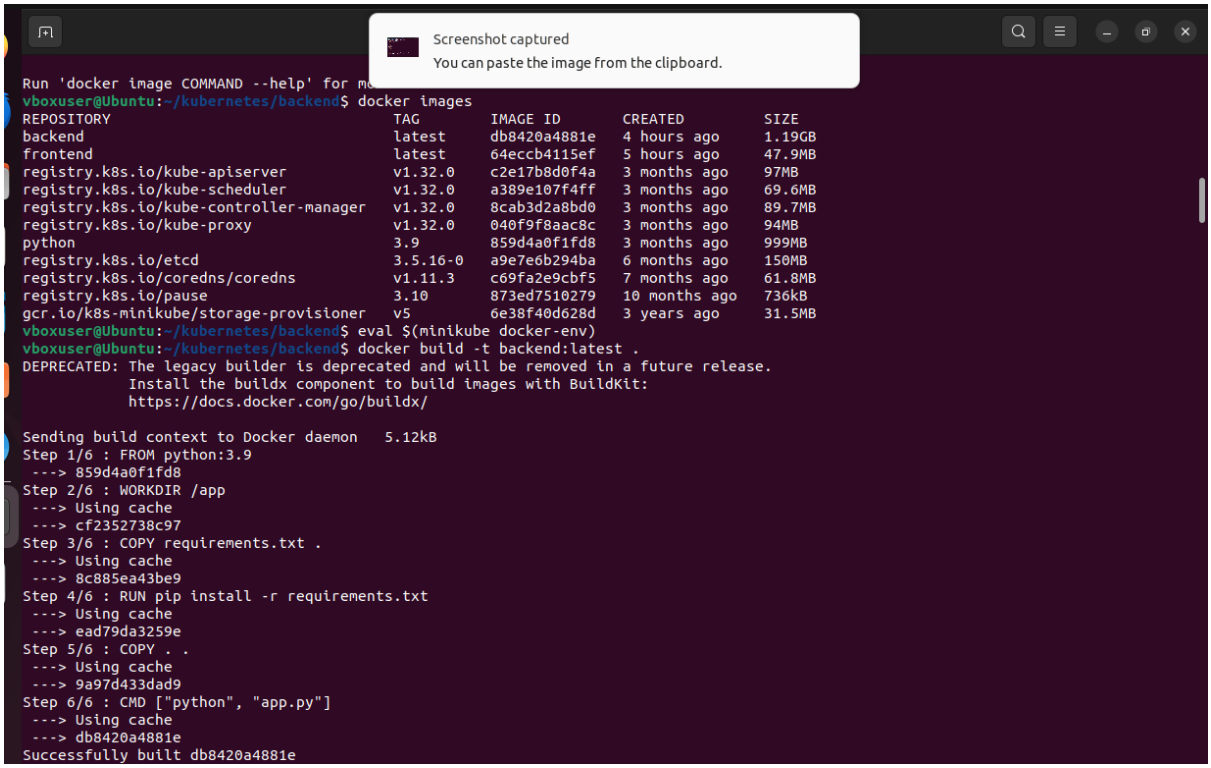



```
boxuser@Ubuntu:~/kubernetes$ cd k8s
boxuser@Ubuntu:~/kubernetes/k8s$ kubectl apply -f k8s/frontend-deployment.yaml
rror: the path "k8s/frontend-deployment.yaml" does not exist
boxuser@Ubuntu:~/kubernetes/k8s$ ls
llow-all.yaml           configmap.yaml            service.yaml
ackend-deployment.yaml  frontend-deployment.yaml
boxuser@Ubuntu:~/kubernetes/k8s$ cd frondend-deployment.yaml
ash: cd: frondend-deployment.yaml: No such file or directory
boxuser@Ubuntu:~/kubernetes/k8s$ cd frontend-deployment.yaml
ash: cd: frontend-deployment.yaml: Not a directory
boxuser@Ubuntu:~/kubernetes/k8s$ cd ^C
boxuser@Ubuntu:~/kubernetes/k8s$ cd frontend-deployment.yaml
ash: cd: frontend-deployment.yaml: Not a directory
boxuser@Ubuntu:~/kubernetes/k8s$ ls
llow-all.yaml           configmap.yaml            service.yaml
ackend-deployment.yaml  frontend-deployment.yaml
boxuser@Ubuntu:~/kubernetes/k8s$ cd frontend-deployment.yaml
ash: cd: frontend-deployment.yaml: Not a directory
boxuser@Ubuntu:~/kubernetes/k8s$ ls
llow-all.yaml           configmap.yaml            service.yaml
ackend-deployment.yaml  frontend-deployment.yaml
boxuser@Ubuntu:~/kubernetes/k8s$ cd ..
boxuser@Ubuntu:~/kubernetes$ cd k8s/frontend-deployment.yaml
ash: cd: k8s/frontend-deployment.yaml: Not a directory
boxuser@Ubuntu:~/kubernetes$ ls
ackend                  frontend                  README.md
ommands-to-execute      k8s
ommands-to-stop-instances  pre-requisites-command
boxuser@Ubuntu:~/kubernetes$ cd k8s
boxuser@Ubuntu:~/kubernetes/k8s$ ls
llow-all.yaml           configmap.yaml            service.yaml
ackend-deployment.yaml  frontend-deployment.yaml
boxuser@Ubuntu:~/kubernetes/k8s$ cd frontend-deployment.yaml
ash: cd: frontend-deployment.yaml: Not a directory
boxuser@Ubuntu:~/kubernetes/k8s$ ls
llow-all.yaml           configmap.yaml            service.yaml
ackend-deployment.yaml  frontend-deployment.yaml
boxuser@Ubuntu:~/kubernetes/k8s$ kubectl apply -f k8s/frontend-deployment.yaml
```


vboxuser@Ubuntu: ~/kubernetes
Username: siva182004
Labels:
provider=docker
Experimental: false
Insecure Registries:
10.96.0.0/12
127.0.0.0/8
Live Restore Enabled: false
vboxuser@Ubuntu:~/kubernetes/backend$ docker images ls
REPOSITORY TAG IMAGE ID CREATED SIZE
No images found matching "ls": did you mean "docker image ls"?
vboxuser@Ubuntu:~/kubernetes/backend$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
backend latest db8420a4881e 4 hours ago 1.19GB
frontend latest 64eccb4115ef 5 hours ago 47.9MB
registry.k8s.io/kube-apiserver v1.32.0 c2e17b8d0f4a 3 months ago 97MB
registry.k8s.io/kube-scheduler v1.32.0 a389e107f4ff 3 months ago 69.6MB
registry.k8s.io/kube-controller-manager v1.32.0 8cab3d2a8bd0 3 months ago 89.7MB
registry.k8s.io/kube-proxy v1.32.0 040f9f8aac8c 3 months ago 94MB
python 3.9 859d4a0f1fd8 3 months ago 999MB
registry.k8s.io/etcd 3.5.16-0 a9e7e6b294ba 6 months ago 150MB
registry.k8s.io/coredns/coredns v1.11.3 c69fa2e9cbf5 7 months ago 61.8MB
registry.k8s.io/pause 3.10 873ed7510279 10 months ago 736kB
gcr.io/k8s-minikube/storage-provisioner v5 6e38f40d628d 3 years ago 31.5MB
vboxuser@Ubuntu:~/kubernetes/backend$ cd
vboxuser@Ubuntu:~$ cd kubernetes
vboxuser@Ubuntu:~/kubernetes$ ls
backend frontend README.md
commands-to-execute k8s
commands-to-stop-instances pre-requisites-command
vboxuser@Ubuntu:~/kubernetes$ cd frontend
vboxuser@Ubuntu:~/kubernetes/frontend$ minikube image load frontend:latest
! The image 'frontend:latest' was not found; unable to add it to cache.
vboxuser@Ubuntu:~/kubernetes/frontend$ docker build -t frontend:latest .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/


https://docs.docker.com/go/buildx/
ending build context to Docker daemon 3.584kB
tep 1/2 : FROM nginx:alpine
lpine: Pulling from library/nginx
18232174bc9: Pull complete
cc35e35d420: Pull complete
3f2ec460bdf: Pull complete
84583bcf083: Pull complete
d27c072a58f: Pull complete
b3286a73463: Pull complete
d79cc6084d4: Pull complete
c7e4c092ab7: Pull complete
igest: sha256:4ff102c5d78d254a6f0da062b3cf39eaf07f01eec0927fd21e219d0af8bc0591
tatus: Downloaded newer image for nginx:alpine
---> 1ff4bb4faebc
tep 2/2 : COPY index.html /usr/share/nginx/html/index.html
---> 64eccb4115ef
uccessfully built 64eccb4115ef
uccessfully tagged frontend:latest
boxuser@Ubuntu:~/kubernetes/frontend$ docker images | grep frontend
rontend latest 64eccb4115ef 11 seconds ago 47.9MB
boxuser@Ubuntu:~/kubernetes/frontend$ minikube image load frontend:latest
boxuser@Ubuntu:~/kubernetes/frontend$ kubectl apply -f k8s/backend-deployment.yaml
rror: the path "k8s/backend-deployment.yaml" does not exist
boxuser@Ubuntu:~/kubernetes/frontend$ kubectl apply -f k8s/frontend-deployment.yaml
rror: the path "k8s/frontend-deployment.yaml" does not exist
boxuser@Ubuntu:~/kubernetes/frontend$ ls
ockerfile index.html
boxuser@Ubuntu:~/kubernetes/frontend$ cd..
d..: command not found
boxuser@Ubuntu:~/kubernetes/frontend$ cd ..
boxuser@Ubuntu:~/kubernetes$ ls
ackend frontend README.md
ommands-to-execute k8s
ommands-to-stop-instances pre-requisites-command
boxuser@Ubuntu:~/kubernetes$ cd k8s
boxuser@Ubuntu:~/kubernetes/k8s$ kubectl apply -f k8s/frontend-deployment.yaml


vboxuser@Ubuntu: ~/kubernetes
For more help on how to use Docker, head to https://docs.docker.com/go/guides/
vboxuser@Ubuntu:~/kubernetes/backend$ docker images | grep backend
backend latest db8420a4881e 4 hours ago 1.19GB
vboxuser@Ubuntu:~/kubernetes/backend$ docker images | grep backend
backend latest db8420a4881e 4 hours ago 1.19GB
vboxuser@Ubuntu:~/kubernetes/backend$ minikube image load backend:latest
! The image 'backend:latest' was not found; unable to add it to cache.
vboxuser@Ubuntu:~/kubernetes/backend$ ^C
vboxuser@Ubuntu:~/kubernetes/backend$ minikube image load backend:latest
! The image 'backend:latest' was not found; unable to add it to cache.
minikube ssh -- docker images | grep backend
! The image 'backend:latest' was not found; unable to add it to cache.
^C
vboxuser@Ubuntu:~/kubernetes/backend$ minikube ssh -- docker images | grep backend
backend latest db8420a4881e 4 hours ago 1.19GB
vboxuser@Ubuntu:~/kubernetes/backend$ eval $(minikube docker-env)
vboxuser@Ubuntu:~/kubernetes/backend$ docker info | grep "Name:"
Name: minikube
vboxuser@Ubuntu:~/kubernetes/backend$ docker save -o backend.tar backend:latest
vboxuser@Ubuntu:~/kubernetes/backend$ docker save -o backend.tar backend:latest
vboxuser@Ubuntu:~/kubernetes/backend$ ls -lh backend.tar
-rw------- 1 vboxuser vboxuser 1.2G Mar 21 20:06 backend.tar
vboxuser@Ubuntu:~/kubernetes/backend$ minikube ssh -- docker load < backend.tar


Screenshot captured
You can paste the image from the clipboard.
Run 'docker image COMMAND --help' for m
vboxuser@Ubuntu:~/kubernetes/backend$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
backend latest db8420a4881e 4 hours ago 1.19GB
frontend latest 64eccb4115ef 5 hours ago 47.9MB
registry.k8s.io/kube-apiserver v1.32.0 c2e17b8d0f4a 3 months ago 97MB
registry.k8s.io/kube-scheduler v1.32.0 a389e107f4ff 3 months ago 69.6MB
registry.k8s.io/kube-controller-manager v1.32.0 8cab3d2a8bd0 3 months ago 89.7MB
registry.k8s.io/kube-proxy v1.32.0 040f9f8aac8c 3 months ago 94MB
python 3.9 859d4a0f1fd8 3 months ago 999MB
registry.k8s.io/etcd 3.5.16-0 a9e7e6b294ba 6 months ago 150MB
registry.k8s.io/coredns/coredns v1.11.3 c69fa2e9cbf5 7 months ago 61.8MB
registry.k8s.io/pause 3.10 873ed7510279 10 months ago 736kB
gcr.io/k8s-minikube/storage-provisioner v5 6e38f40d628d 3 years ago 31.5MB
vboxuser@Ubuntu:~/kubernetes/backend$ eval $(minikube docker-env)
vboxuser@Ubuntu:~/kubernetes/backend$ docker build -t backend:latest .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
Sending build context to Docker daemon 5.12kB
Step 1/6 : FROM python:3.9
---> 859d4a0f1fd8
Step 2/6 : WORKDIR /app
---> Using cache
---> cf2352738c97
Step 3/6 : COPY requirements.txt .
---> Using cache
---> 8c885ea43be9
Step 4/6 : RUN pip install -r requirements.txt
---> Using cache
---> ead79da3259e
Step 5/6 : COPY . .
---> Using cache
---> 9a97d433dad9
Step 6/6 : CMD ["python", "app.py"]
---> Using cache
---> db8420a4881e
Successfully built db8420a4881e

```
/body></html>
boxuser@Ubuntu:~/kubernetes$ minikube start
  minikube v1.35.0 on Ubuntu 22.04 (vbox/amd64)
0321 14:26:43.704175    5539 start.go:812] api.Load failed for minikube: filestore "minikube": Docker machine "minikube" does no
ist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
  Using the docker driver based on existing profile

  The requested memory allocation of 1967MiB does not leave room for system overhead (total system memory: 1967MiB). You may fa
tability issues.
  Suggestion: Start minikube with less memory allocated: 'minikube start --memory=1967mb'

  Starting "minikube" primary control-plane node in "minikube" cluster
  Pulling base image v0.0.46 ...
  Creating docker container (CPUs=2, Memory=1967MB) ...
  Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
    ■ Generating certificates and keys ...
    ■ Booting up control plane ...
    ■ Configuring RBAC rules ...
  Configuring bridge CNI (Container Networking Interface) ...
  Verifying Kubernetes components...
    ■ Using image gcr.io/k8s-minikube/storage-provisioner:v5
  Enabled addons: storage-provisioner, default-storageclass
  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
boxuser@Ubuntu:~/kubernetes$ kubectl get nodes
AME       STATUS   ROLES           AGE   VERSION
inikube   Ready    control-plane   27s   v1.32.0
boxuser@Ubuntu:~/kubernetes$ sudo apt update
gn:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
it:2 https://pkg.jenkins.io/debian-stable binary/ Release
it:3 http://security.ubuntu.com/ubuntu jammy-security InRelease
it:5 http://in.archive.ubuntu.com/ubuntu jammy InRelease
it:6 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease
it:7 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
eading package lists... Done
uilding dependency tree... Done
eading state information... Done
0 packages can be upgraded. Run 'apt list --upgradable' to see them.
boxuser@Ubuntu:~/kubernetes$ sudo apt install docker.io -y
```

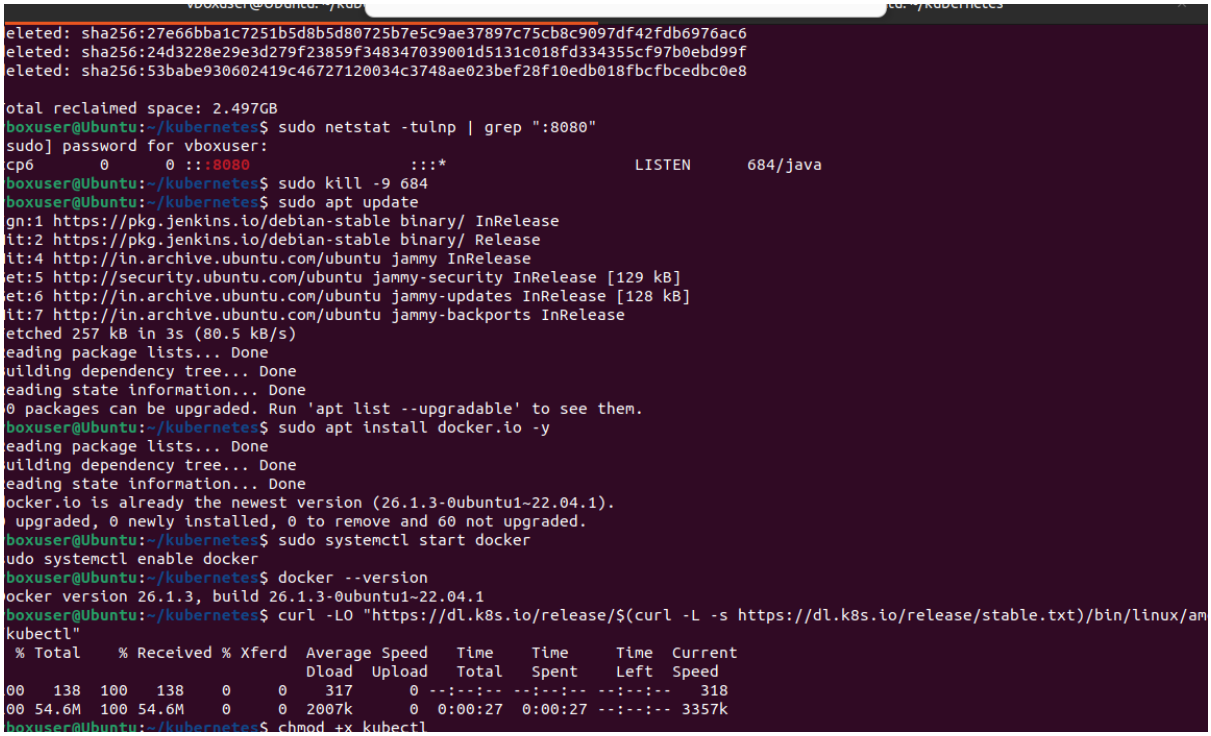
```
vboxuser@Ubuntu: ~
  Exiting due to RSRC_OVER_ALLOC_MEM: Requested memory allocation 2048MB is more than your system limit 1967MB.
  Suggestion: Start minikube with less memory allocated: 'minikube start --memory=1967mb'

vboxuser@Ubuntu:~$ minikube start --cpus=1 --memory=1800mb --force
  minikube v1.35.0 on Ubuntu 22.04 (vbox/amd64)
  minikube skips various validations when --force is supplied; this may lead to unexpected behavior
  Automatically selected the docker driver

  Requested cpu count 1 is less than the minimum allowed of 2


  Requested memory allocation (1800MB) is less than the recommended minimum 1900MB. Deployments may fail.


  The requested memory allocation of 1800MiB does not leave room for system overhead (total system memory: 1967MiB). You may face
stability issues.
  Suggestion: Start minikube with less memory allocated: 'minikube start --memory=1967mb'

  Using Docker driver with root privileges
  Starting "minikube" primary control-plane node in "minikube" cluster
  Pulling base image v0.0.46 ...
  Downloading Kubernetes v1.32.0 preload ...
    > preloaded-images-k8s-v18-v1...:  333.57 MiB / 333.57 MiB  100.00% 2.49 Mi
    > gcr.io/k8s-minikube/kicbase...:  500.31 MiB / 500.31 MiB  100.00% 2.72 Mi
  Creating docker container (CPUs=1, Memory=1800MB) ...
  Failing to connect to https://registry.k8s.io/ from inside the minikube container
  To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/networking/proxy/
  Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
    ■ Generating certificates and keys ...
    ■ Booting up control plane ...
    ■ Configuring RBAC rules ...
  Configuring bridge CNI (Container Networking Interface) ...
  Verifying Kubernetes components...
    ■ Using image gcr.io/k8s-minikube/storage-provisioner:v5
  Enabled addons: default-storageclass, storage-provisioner
  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
vboxuser@Ubuntu:~$ kubectl get nodes
NAME       STATUS   ROLES           AGE   VERSION
minikube   Ready    control-plane   60s   v1.32.0
vboxuser@Ubuntu:~$
```

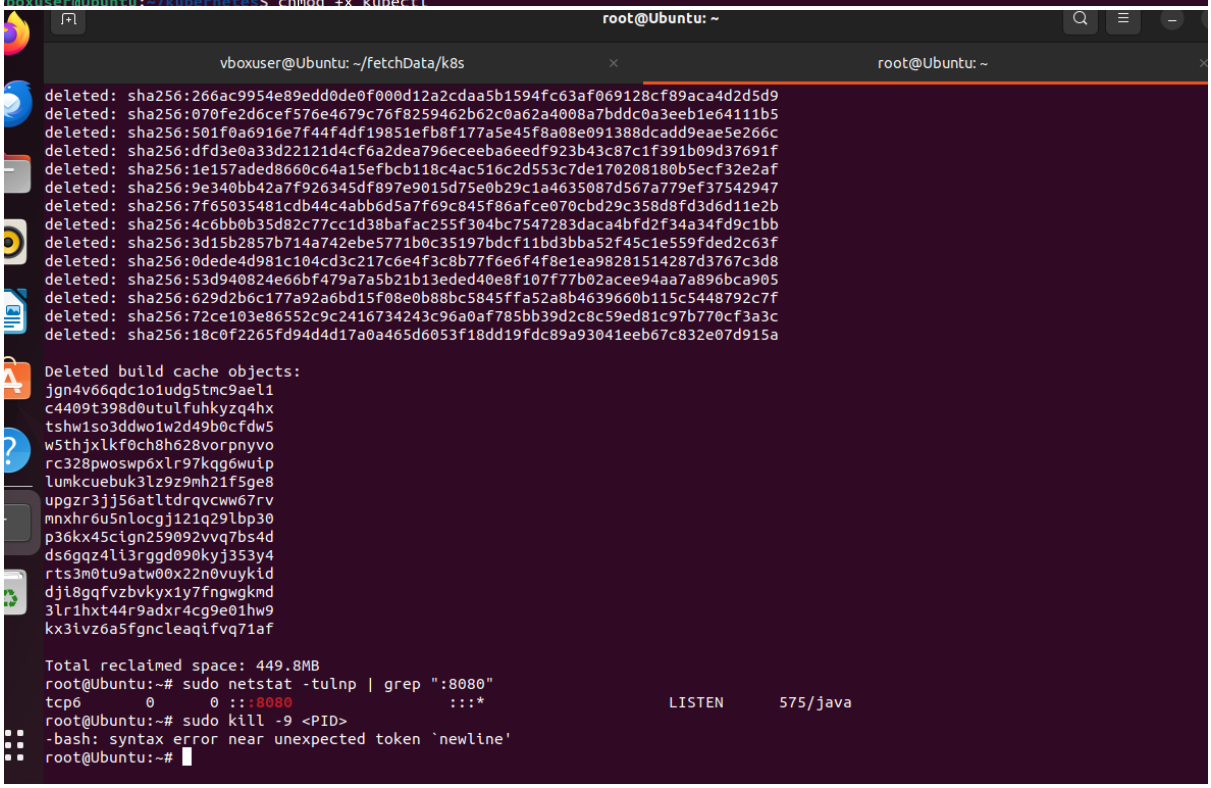
```
vboxuser@Ubuntu:~$ ls
Desktop            Documents  fetchData  Pictures  snap       Videos
docker-python-app  Downloads  Music      Public    Templates
vboxuser@Ubuntu:~$ su -
Password:
root@Ubuntu:~# ls
kubernetes  minikube-linux-amd64  snap  vboxpostinstall.sh
root@Ubuntu:~# cd kubernetes
root@Ubuntu:~/kubernetes# ls
backend  commands-to-stop-instances  frontend  k8s  README.md
root@Ubuntu:~/kubernetes# cd backend
root@Ubuntu:~/kubernetes/backend# ls
app.py  dockerfile  products.csv  requirements.txt
root@Ubuntu:~/kubernetes/backend# docker build -t backend:latest
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

"docker build" requires exactly 1 argument.
See 'docker build --help'.

Usage:  docker build [OPTIONS] PATH | URL | -

Build an image from a Dockerfile
root@Ubuntu:~/kubernetes/backend# docker build -t backend:latest .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon   5.12kB
Step 1/6 : FROM python:3.9
3.9: Pulling from library/python
7cd785773db4: Pull complete
091eb8249475: Pull complete
255774e0027b: Pull complete
353e14e5cc47: Extracting [========================================>          ]  173.8MB/211.4MB
f6d72b00ae7c: Download complete
6e02a90e58ae: Download complete
f299e0671245: Download complete
```

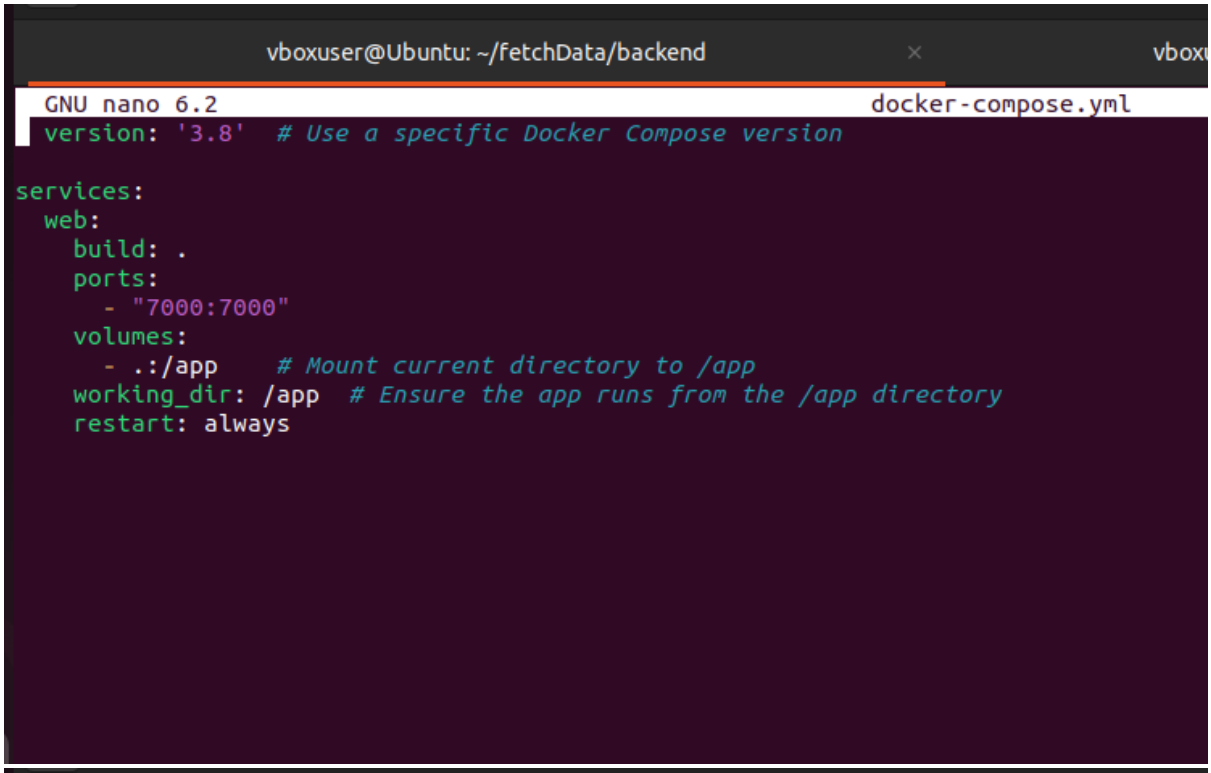
```
boxuser@Ubuntu:~$ git clone https://github.com/PadmavathyNarayanan/kubernetes.git
loning into 'kubernetes'...
emote: Enumerating objects: 34, done.
emote: Counting objects: 100% (34/34), done.
emote: Compressing objects: 100% (30/30), done.
emote: Total 34 (delta 7), reused 15 (delta 1), pack-reused 0 (from 0)
eceiving objects: 100% (34/34), 8.67 KiB | 1.73 MiB/s, done.
esolving deltas: 100% (7/7), done.
boxuser@Ubuntu:~$ ls
esktop             Documents  fetchData   Music     Public  Templates
ocker-python-app   Downloads  kubernetes  Pictures  snap    Videos
boxuser@Ubuntu:~$ cd kubernetes
boxuser@Ubuntu:~/kubernetes$ ls
ackend                      frontend                  README.md
ommands-to-execute          k8s
ommands-to-stop-instances   pre-requisites-command
boxuser@Ubuntu:~/kubernetes$ kubectl delete all --all --force --grace-period=0
arning: Immediate deletion does not wait for confirmation that the running resource has been terminated. The resource may contin
o run on the cluster indefinitely.
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
boxuser@Ubuntu:~/kubernetes$ kubectl delete namespace kube-system --force --grace-period=0
arning: Immediate deletion does not wait for confirmation that the running resource has been terminated. The resource may contin
o run on the cluster indefinitely.
nable to connect to the server: dial tcp 192.168.49.2:8443: connect: no route to host
boxuser@Ubuntu:~/kubernetes$ minikube stop
  Stopping node "minikube"  ...
  1 node stopped.
boxuser@Ubuntu:~/kubernetes$ minikube delete --all --purge
  Deleting "minikube" in docker ...
```

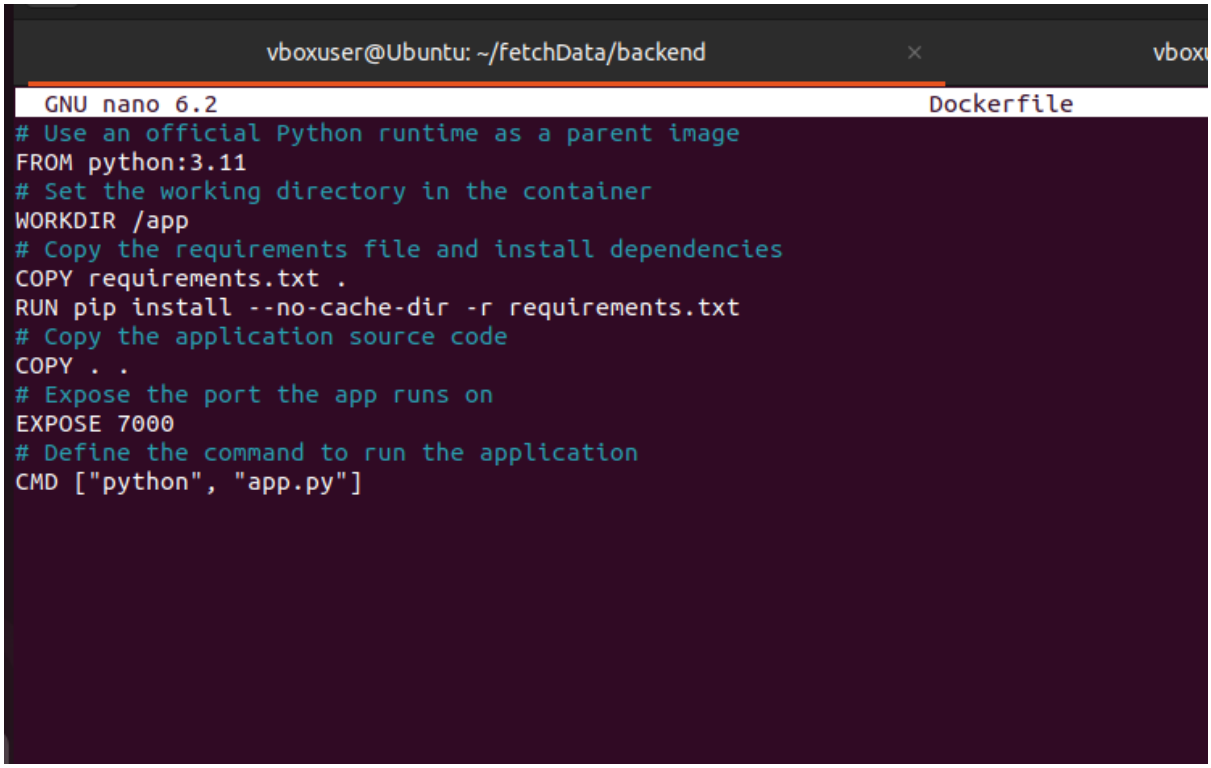
```
boxuser@Ubuntu:~/kubernetes$ docker kill $(docker ps -q)
docker kill" requires at least 1 argument.
ee 'docker kill --help'.

sage:  docker kill [OPTIONS] CONTAINER [CONTAINER...]

ill one or more running containers
boxuser@Ubuntu:~/kubernetes$ docker rm -f $(docker ps -aq)
docker rm" requires at least 1 argument.
ee 'docker rm --help'.

sage:  docker rm [OPTIONS] CONTAINER [CONTAINER...]

emove one or more containers
boxuser@Ubuntu:~/kubernetes$ systemctl stop docker
arning: Stopping docker.service, but it can still be activated by:
 docker.socket
boxuser@Ubuntu:~/kubernetes$ systemctl start docker
boxuser@Ubuntu:~/kubernetes$ pkill -f docker
kill: killing pid 4455 failed: Operation not permitted
boxuser@Ubuntu:~/kubernetes$ pkill -f minikube
boxuser@Ubuntu:~/kubernetes$ pkill -f kubectl
boxuser@Ubuntu:~/kubernetes$ pkill -f containerd
kill: killing pid 703 failed: Operation not permitted
kill: killing pid 4455 failed: Operation not permitted
boxuser@Ubuntu:~/kubernetes$ docker system prune -a --volumes -f
eleted Images:
ntagged: gcr.io/k8s-minikube/kicbase:v0.0.46
ntagged: gcr.io/k8s-minikube/kicbase@sha256:fd2d445ddcc33ebc5c6b68a17e6219ea207ce63c005095ea1525296da2d1a279
eleted: sha256:e72c4cbe9b296d8a58fbcae1a7b969fa1cee662cd7b86f2d4efc5e146519cf0a
eleted: sha256:5afe0607e8a82226399f6352a39419bb8765f01cfabaed3e95c7426770a727d4
ntagged: backend:latest
eleted: sha256:1e23462d2b295ddb3ce1ba18b74067ff87caa316e537a1f5f54ae53b351fecd4
eleted: sha256:adfbf85eee54aa87e13de0fb0c49ba486ddf352afbfbcc77de9f20bb0456ad17
eleted: sha256:0a3b5fb1d925f7036b87e90262624c29994a504400e60a2fba6d443480a73958
eleted: sha256:c6ca88995a7d7402d9b23f07617377dcfb32283a64d692ae6ad346fd5f0bb76d
eleted: sha256:018845dc1a0dc7924e3b9453574b0d00654cd2ac3a63534102eed46b31dfda46
eleted: sha256:17a6e85d70d14ce7080b9644dbcc21490738527e554001ecc52a5c50fcb65de0
```

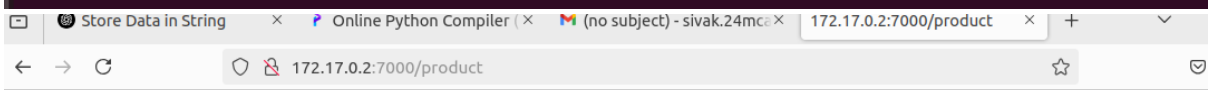
```
lient Version: v1.32.3
ustomize Version: v5.5.0
boxuser@Ubuntu:~/kubernetes$ minikube start
  minikube v1.35.0 on Ubuntu 22.04 (vbox/amd64)
  Automatically selected the docker driver. Other choices: none, ssh

  The requested memory allocation of 1967MiB does not leave room for system overhead (total system memory: 1967MiB). You may fa
tability issues.
  Suggestion: Start minikube with less memory allocated: 'minikube start --memory=1967mb'

  Using Docker driver with root privileges
  Starting "minikube" primary control-plane node in "minikube" cluster
  Pulling base image v0.0.46 ...
  Downloading Kubernetes v1.32.0 preload ...
    > preloaded-images-k8s-v18-v1...:  333.57 MiB / 333.57 MiB  100.00% 3.29 Mi
    > gcr.io/k8s-minikube/kicbase...:  500.31 MiB / 500.31 MiB  100.00% 2.99 Mi
C
boxuser@Ubuntu:~/kubernetes$ kubectl get nodes

0321 14:26:31.716466    5526 memcache.go:265] "Unhandled Error" err=<
        couldn't get current server API group list: <html><head><meta http-equiv='refresh' content='1;url=/login?from=%2Fapi%3Fti
t%3D32s'/><script id='redirect' data-redirect-url='/login?from=%2Fapi%3Ftimeout%3D32s' src='/static/4922217f/scripts/redirect.js
script></head><body style='background-color:white; color:white;'>
        Authentication required
        <!--
        -->

        </body></html>
>
0321 14:26:31.847349    5526 memcache.go:265] "Unhandled Error" err=<
        couldn't get current server API group list: <html><head><meta http-equiv='refresh' content='1;url=/login?from=%2Fapi%3Fti
t%3D32s'/><script id='redirect' data-redirect-url='/login?from=%2Fapi%3Ftimeout%3D32s' src='/static/4922217f/scripts/redirect.js
script></head><body style='background-color:white; color:white;'>
        Authentication required
        <!--
        -->

        </body></html>
```


eleted: sha256:27e66bba1c7251b5d8b5d80725b7e5c9ae37897c75cb8c9097df42fdb6976ac6
eleted: sha256:24d3228e29e3d279f23859f348347039001d5131c018fd334355cf97b0ebd99f
eleted: sha256:53babe930602419c46727120034c3748ae023bef28f10edb018fbcfbcedbc0e8
otal reclaimed space: 2.497GB
boxuser@Ubuntu:~/kubernetes$ sudo netstat -tulnp | grep ":8080"
sudo] password for vboxuser:
cp6 0 0 ::8080 :::* LISTEN 684/java
boxuser@Ubuntu:~/kubernetes$ sudo kill -9 684
boxuser@Ubuntu:~/kubernetes$ sudo apt update
gn:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
it:2 https://pkg.jenkins.io/debian-stable binary/ Release
it:4 http://in.archive.ubuntu.com/ubuntu jammy InRelease
et:5 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
et:6 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
it:7 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
etched 257 kB in 3s (80.5 kB/s)
eading package lists... Done
uilding dependency tree... Done
eading state information... Done
0 packages can be upgraded. Run 'apt list --upgradable' to see them.
boxuser@Ubuntu:~/kubernetes$ sudo apt install docker.io -y
eading package lists... Done
uilding dependency tree... Done
eading state information... Done
ocker.io is already the newest version (26.1.3-0ubuntu1~22.04.1).
upgraded, 0 newly installed, 0 to remove and 60 not upgraded.
boxuser@Ubuntu:~/kubernetes$ sudo systemctl start docker
udo systemctl enable docker
boxuser@Ubuntu:~/kubernetes$ docker --version
ocker version 26.1.3, build 26.1.3-0ubuntu1~22.04.1
boxuser@Ubuntu:~/kubernetes$ curl -LO "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/release/stable.txt)/bin/linux/am
kubectl"
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
00 138 100 138 0 0 317 0 --:--:-- --:--:-- --:--:-- 318
00 54.6M 100 54.6M 0 0 2007k 0 0:00:27 0:00:27 --:--:-- 3357k
boxuser@Ubuntu:~/kubernetes$ chmod +x kubectl

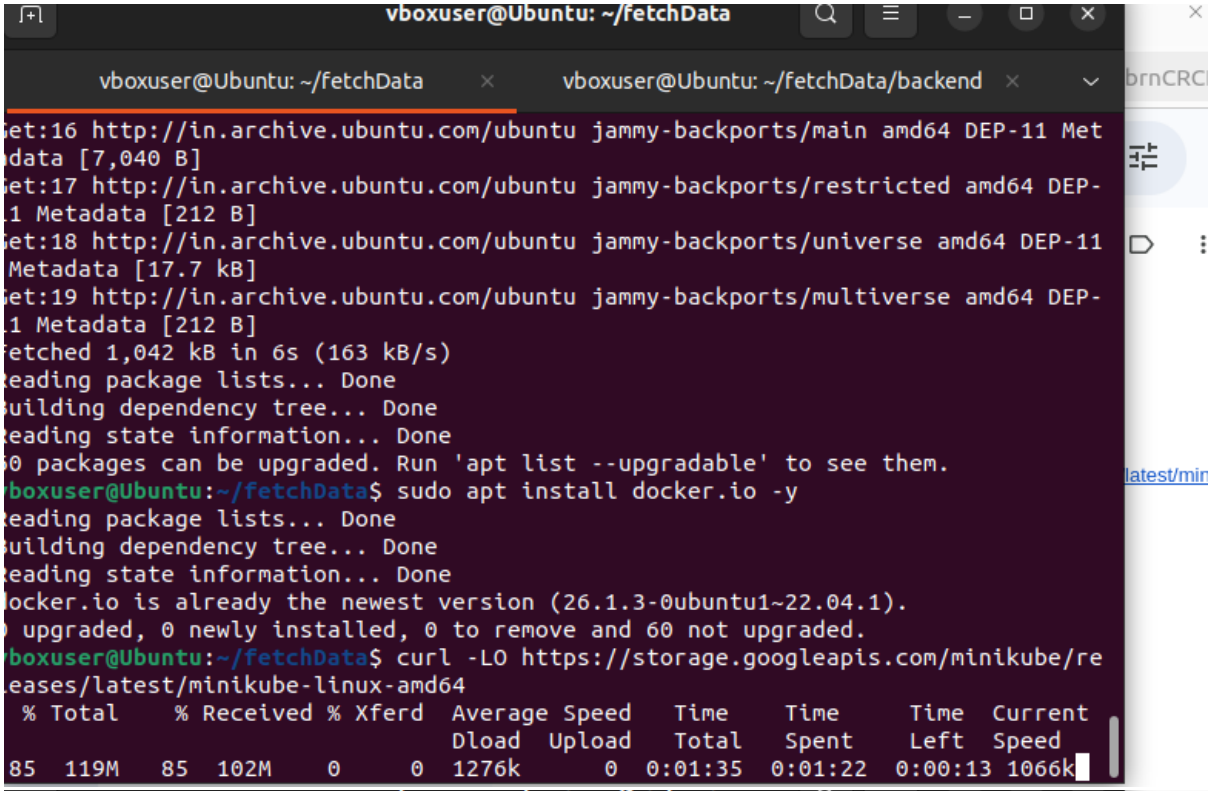

root@Ubuntu: ~
vboxuser@Ubuntu: ~/fetchData/k8s
root@Ubuntu: ~
deleted: sha256:266ac9954e89edd0de0f000d12a2cdaa5b1594fc63af069128cf89aca4d2d5d9
deleted: sha256:070fe2d6cef576e4679c76f8259462b62c0a62a4008a7bddc0a3eeb1e64111b5
deleted: sha256:501f0a6916e7f44f4df19851efb8f177a5e45f8a08e091388dcadd9eae5e266c
deleted: sha256:dfd3e0a33d22121d4cf6a2dea796eceeba6eedf923b43c87c1f391b09d37691f
deleted: sha256:1e157aded8660c64a15efbcb118c4ac516c2d553c7de170208180b5ecf32e2af
deleted: sha256:9e340bb42a7f926345df897e9015d75e0b29c1a4635087d567a779ef37542947
deleted: sha256:7f65035481cdb44c4abb6d5a7f69c845f86afce070cbd29c358d8fd3d6d11e2b
deleted: sha256:4c6bb0b35d82c77cc1d38bafac255f304bc7547283daca4bfd2f34a34fd9c1bb
deleted: sha256:3d15b2857b714a742ebe5771b0c35197bdcf11bd3bba52f45c1e559fded2c63f
deleted: sha256:0dede4d981c104cd3c217c6e4f3c8b77f6e6f4f8e1ea98281514287d3767c3d8
deleted: sha256:53d940824e66bf479a7a5b21b13eded40e8f107f77b02acee94aa7a896bca905
deleted: sha256:629d2b6c177a92a6bd15f08e0b88bc5845ffa52a8b4639660b115c5448792c7f
deleted: sha256:72ce103e86552c9c2416734243c96a0af785bb39d2c8c59ed81c97b770cf3a3c
deleted: sha256:18c0f2265fd94d4d17a0a465d6053f18dd19fdc89a93041eeb67c832e07d915a
Deleted build cache objects:
jgn4v66qdc1o1udg5tmc9ael1
c4409t398d0utulfuhkyzq4hx
tshw1so3ddwo1w2d49b0cfdw5
w5thjxlkf0ch8h628vorpnyvo
rc328pwoswp6xlr97kqg6wuip
lumkcuebuk3lz9z9mh21f5ge8
upgzr3jj56atltdrqvcww67rv
mnxhr6u5nlocgj121q29lbp30
p36kx45cign259092vvq7bs4d
ds6gqz4li3rggd090kyj353y4
rts3m0tu9atw00x22n0vuykid
dji8gqfvzbvkyx1y7fngwgkmd
3lr1hxt44r9adxr4cg9e01hw9
kx3ivz6a5fgncleaqifvq71af
Total reclaimed space: 449.8MB
root@Ubuntu:~# sudo netstat -tulnp | grep ":8080"
tcp6 0 0 ::8080 :::* LISTEN 575/java
root@Ubuntu:~# sudo kill -9 <PID>
-bash: syntax error near unexpected token `newline'
root@Ubuntu:~#

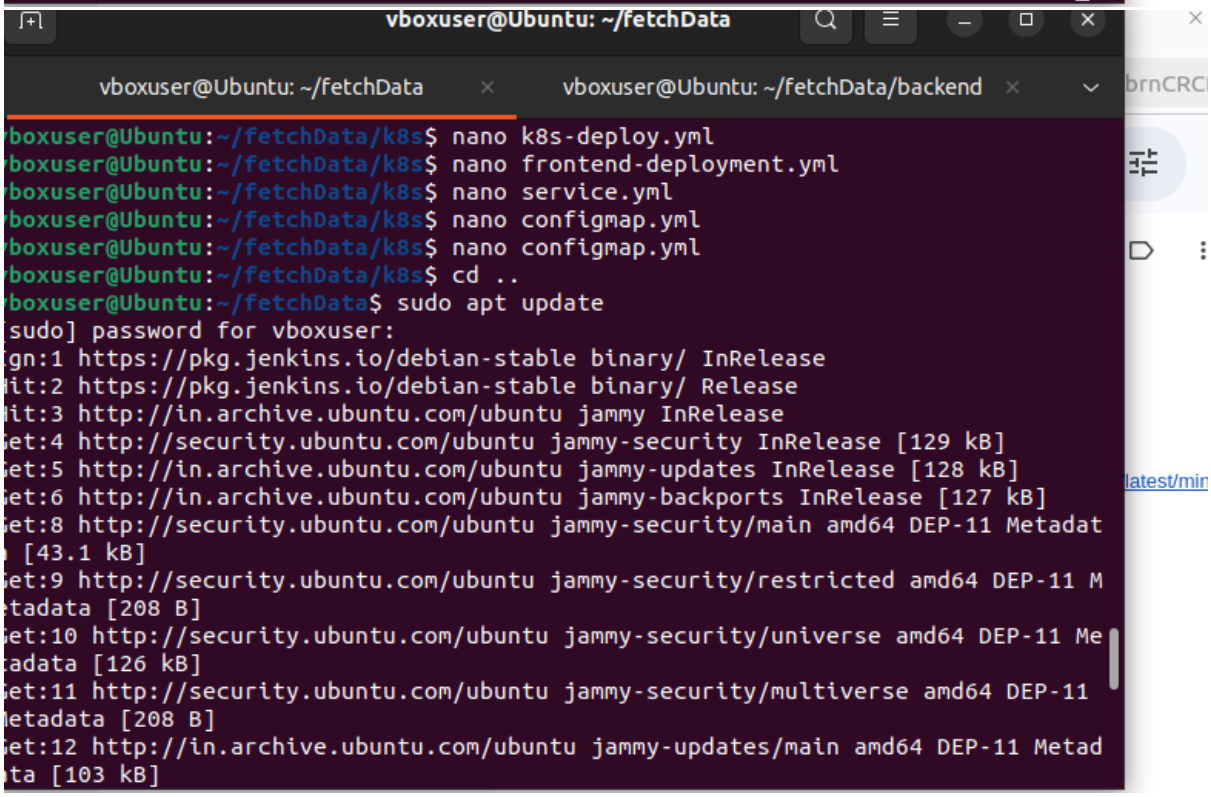


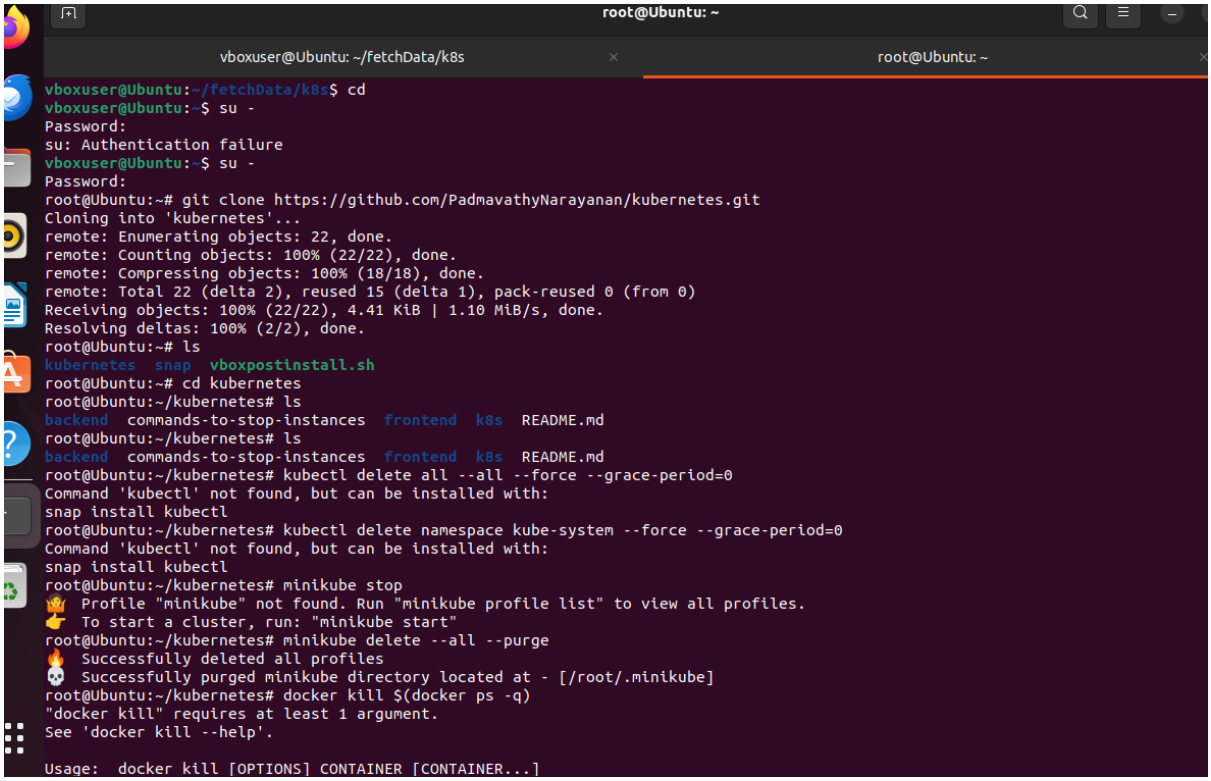


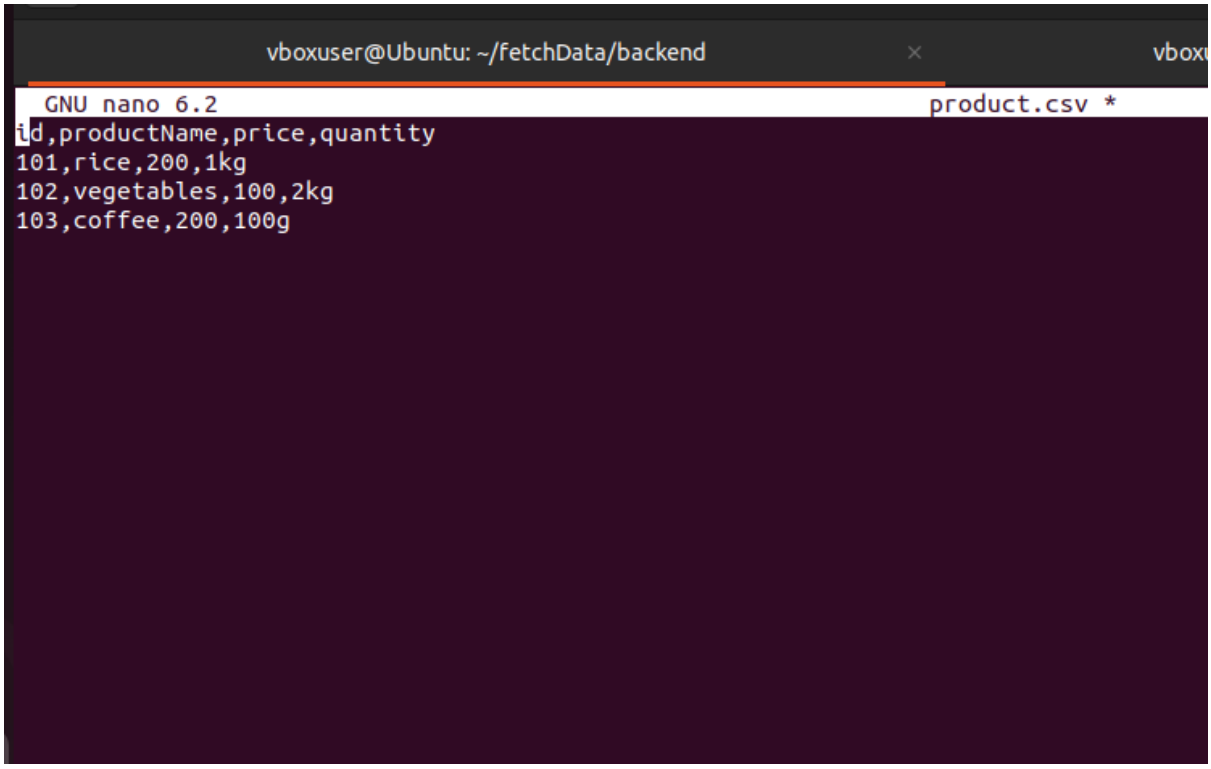


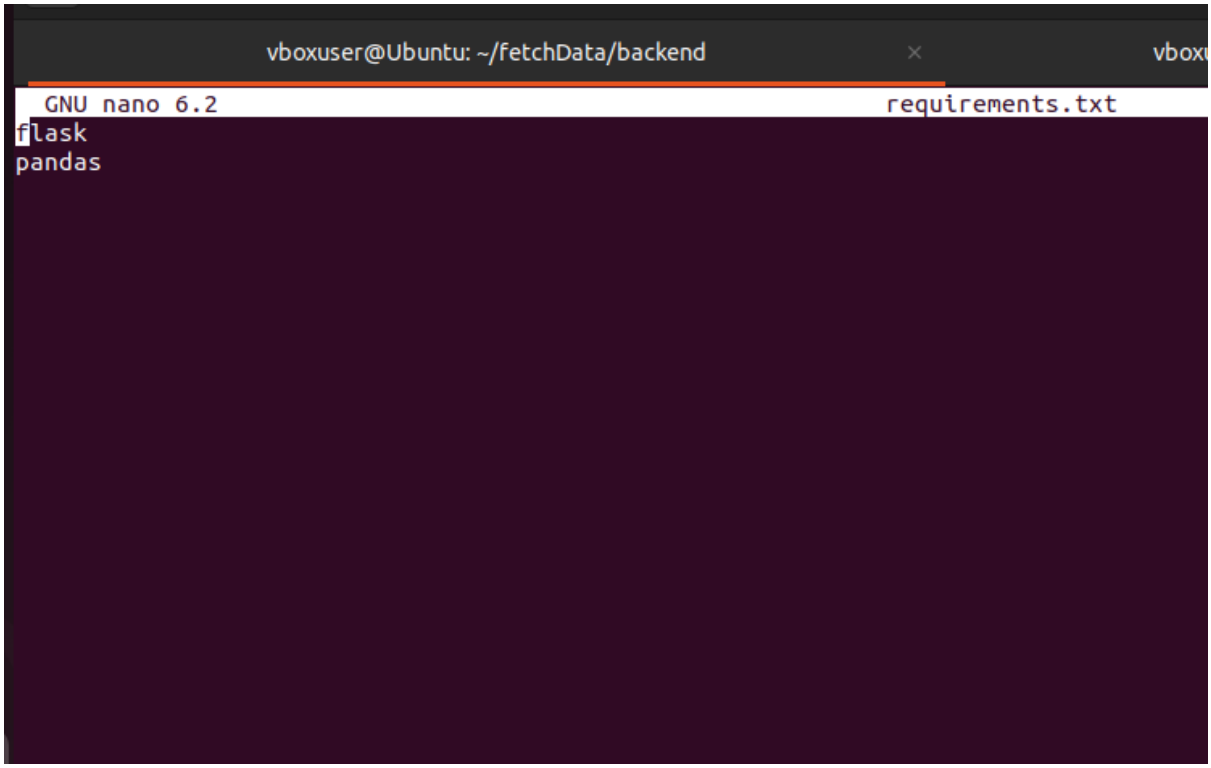
[{"id":101,"productName":"rice","price":200,"quantity":"1kg"},{"id":102,"productName":"vegetables","price":100,"quantity":"2kg"},
{"id":103,"productName":"coffee","price":200,"quantity":"100g"}]


vboxuser@Ubuntu: ~/fetchData
vboxuser@Ubuntu: ~/fetchData
vboxuser@Ubuntu: ~/fetchData/backend
et:16 http://in.archive.ubuntu.com/ubuntu jammy-backports/main amd64 DEP-11 Met
data [7,040 B]
et:17 http://in.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 DEP-
1 Metadata [212 B]
et:18 http://in.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 DEP-11
Metadata [17.7 kB]
et:19 http://in.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 DEP-
1 Metadata [212 B]
etched 1,042 kB in 6s (163 kB/s)
eading package lists... Done
uilding dependency tree... Done
eading state information... Done
0 packages can be upgraded. Run 'apt list --upgradable' to see them.
boxuser@Ubuntu:~/fetchData$ sudo apt install docker.io -y
eading package lists... Done
uilding dependency tree... Done
eading state information... Done
ocker.io is already the newest version (26.1.3-0ubuntu1~22.04.1).
upgraded, 0 newly installed, 0 to remove and 60 not upgraded.
boxuser@Ubuntu:~/fetchData$ curl -LO https://storage.googleapis.com/minikube/re
eases/latest/minikube-linux-amd64
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
85 119M 85 102M 0 0 1276k 0 0:01:35 0:01:22 0:00:13 1066k


vboxuser@Ubuntu: ~/fetchData
vboxuser@Ubuntu: ~/fetchData
vboxuser@Ubuntu: ~/fetchData/backend
boxuser@Ubuntu:~/fetchData/k8s$ nano k8s-deploy.yml
boxuser@Ubuntu:~/fetchData/k8s$ nano frontend-deployment.yml
boxuser@Ubuntu:~/fetchData/k8s$ nano service.yml
boxuser@Ubuntu:~/fetchData/k8s$ nano configmap.yml
boxuser@Ubuntu:~/fetchData/k8s$ nano configmap.yml
boxuser@Ubuntu:~/fetchData/k8s$ cd ..
boxuser@Ubuntu:~/fetchData$ sudo apt update
[sudo] password for vboxuser:
gn:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
it:2 https://pkg.jenkins.io/debian-stable binary/ Release
it:3 http://in.archive.ubuntu.com/ubuntu jammy InRelease
et:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
et:5 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
et:6 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]
et:8 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadat
[43.1 kB]
et:9 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 DEP-11 M
tadata [208 B]
et:10 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Me
adata [126 kB]
et:11 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 DEP-11
etadata [208 B]
et:12 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metad
ta [103 kB]


root@Ubuntu: ~
vboxuser@Ubuntu: ~/fetchData/k8s
root@Ubuntu: ~
vboxuser@Ubuntu:~/fetchData/k8s$ cd
vboxuser@Ubuntu:~$ su -
Password:
su: Authentication failure
vboxuser@Ubuntu:~$ su -
Password:
root@Ubuntu:~# git clone https://github.com/PadmavathyNarayanan/kubernetes.git
Cloning into 'kubernetes'...
remote: Enumerating objects: 22, done.
remote: Counting objects: 100% (22/22), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 22 (delta 2), reused 15 (delta 1), pack-reused 0 (from 0)
Receiving objects: 100% (22/22), 4.41 KiB | 1.10 MiB/s, done.
Resolving deltas: 100% (2/2), done.
root@Ubuntu:~# ls
kubernetes snap vboxpostinstall.sh
root@Ubuntu:~# cd kubernetes
root@Ubuntu:~/kubernetes# ls
backend commands-to-stop-instances frontend k8s README.md
root@Ubuntu:~/kubernetes# ls
backend commands-to-stop-instances frontend k8s README.md
root@Ubuntu:~/kubernetes# kubectl delete all --all --force --grace-period=0
Command 'kubectl' not found, but can be installed with:
snap install kubectl
root@Ubuntu:~/kubernetes# kubectl delete namespace kube-system --force --grace-period=0
Command 'kubectl' not found, but can be installed with:
snap install kubectl
root@Ubuntu:~/kubernetes# minikube stop
Profile "minikube" not found. Run "minikube profile list" to view all profiles.
To start a cluster, run: "minikube start"
root@Ubuntu:~/kubernetes# minikube delete --all --purge
Successfully deleted all profiles
Successfully purged minikube directory located at - [/root/.minikube]
root@Ubuntu:~/kubernetes# docker kill $(docker ps -q)
"docker kill" requires at least 1 argument.
See 'docker kill --help'.
Usage: docker kill [OPTIONS] CONTAINER [CONTAINER...]


vboxuser@Ubuntu: ~/fetchData/backend
GNU nano 6.2
product.csv *
id,productName,price,quantity
101,rice,200,1kg
102,vegetables,100,2kg
103,coffee,200,100g




```
vboxuser@Ubuntu:~/fetchData/backend$ nano requriements.txt
vboxuser@Ubuntu:~/fetchData/backend$ nano requirements.txt
vboxuser@Ubuntu:~/fetchData/backend$ sudo docker build -t backend:latest .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  6.656kB
Step 1/7 : FROM python:3.11
 ---> 18c0f2265fd9
Step 2/7 : WORKDIR /app
 ---> Using cache
 ---> 629d2b6c177a
Step 3/7 : COPY requirements.txt .
 ---> Using cache
 ---> 070fe2d6cef5
Step 4/7 : RUN pip install --no-cache-dir -r requirements.txt
 ---> Using cache
 ---> 2be742dfb9ea
Step 5/7 : COPY . .
 ---> Using cache
 ---> aa2d82b29b97
Step 6/7 : EXPOSE 7000
 ---> Using cache
 ---> 797595a0c852
Step 7/7 : CMD ["python", "app.py"]
See 'docker run --help'.
vboxuser@Ubuntu:~/fetchData/backend$ docker run backend
 * Serving Flask app 'app'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:7000
 * Running on http://172.17.0.2:7000
Press CTRL+C to quit
```

vboxuser@Ubuntu: ~/fetchData/backend

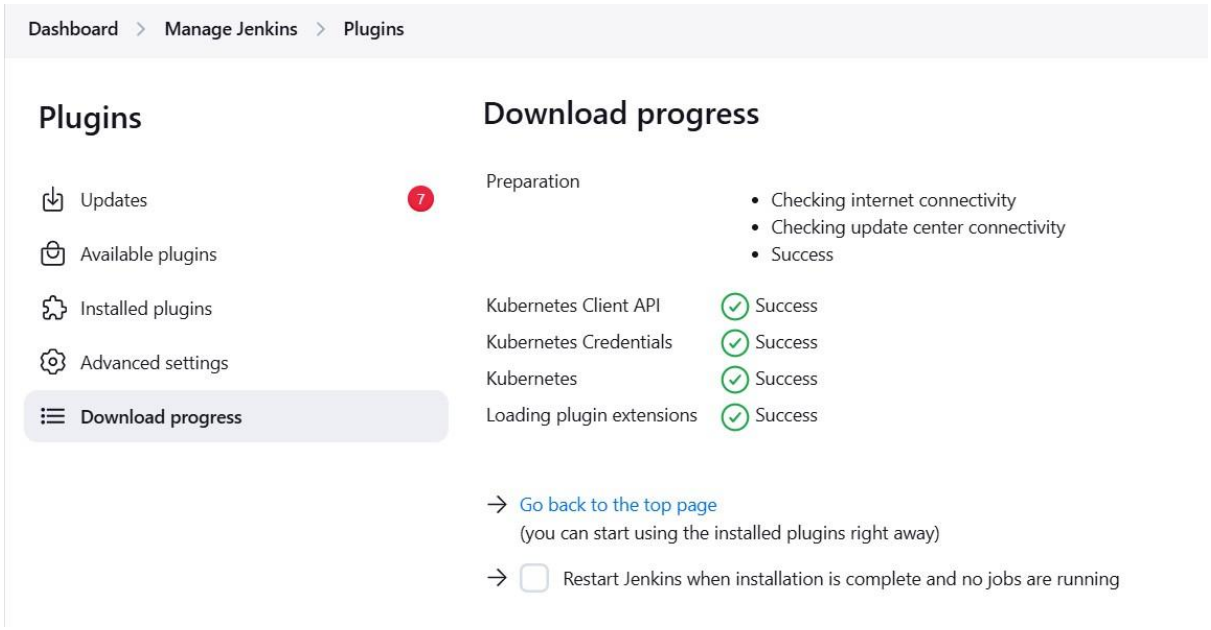
GNU nano 6.2 app.py

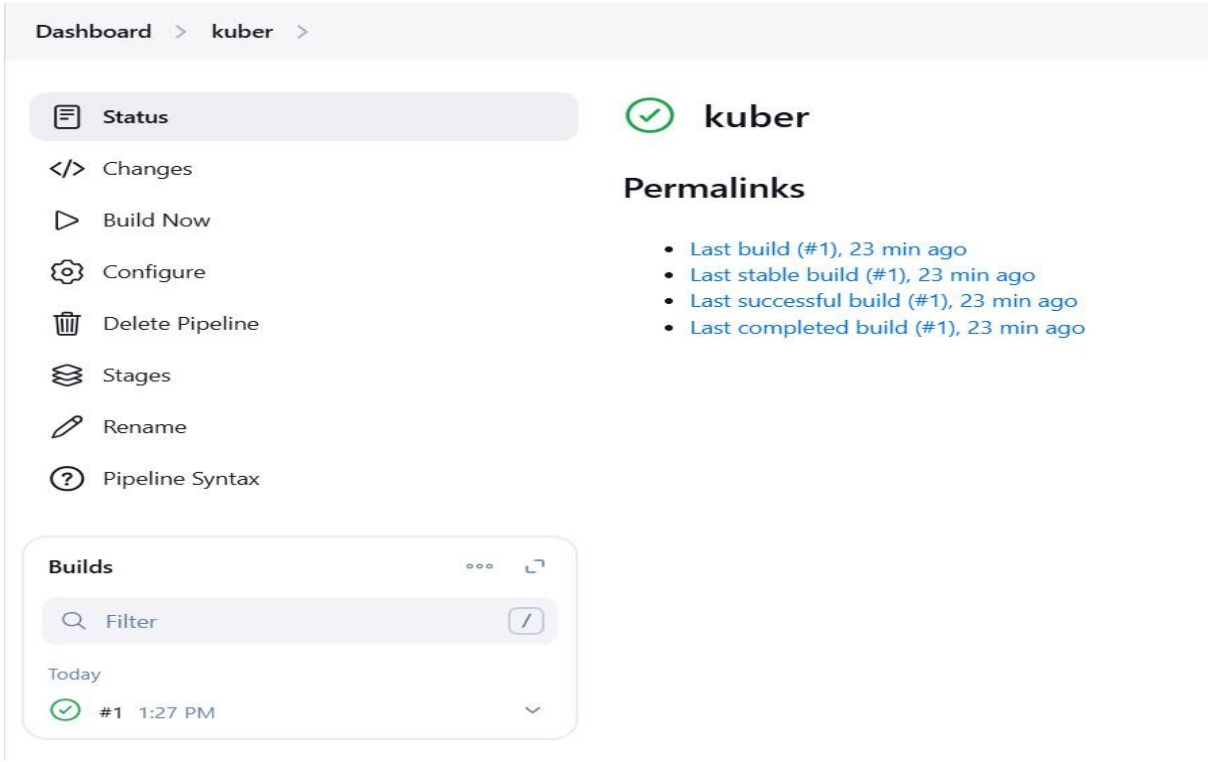
```python
from flask import Flask
import pandas as pd

app = Flask(__name__)

# Correct spelling and syntax
@app.route("/product", methods=['GET'])
def read_data():
    try:
        # Read CSV and convert to JSON
        df = pd.read_csv("product.csv")
        json_data = df.to_json(orient='records')
        return json_data, 200  # Return JSON with status 200
    except Exception as e:
        return {"error": str(e)}, 500  # Return error message with status 500

# Correct Python syntax for Flask execution
if __name__ == "__main__":
    app.run(host="0.0.0.0", port=7000)
```

vboxuser@Ubuntu: ~/fetchData/backend

```
vboxuser@Ubuntu:~/fetchData/backend$ ls
app.py  docker-compose.yml  Dockerfile  product.csv  requirements.txt
vboxuser@Ubuntu:~/fetchData/backend$ sudo netstat -lp
[sudo] password for vboxuser:
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 localhost:domain        0.0.0.0:*               LISTEN      330/systemd-resolve
tcp        0      0 localhost:ipp           0.0.0.0:*               LISTEN      532/cupsd
tcp        0      0 0.0.0.0:http            0.0.0.0:*               LISTEN      628/nginx: master p
tcp        0      0 localhost:43275         0.0.0.0:*               LISTEN      569/containerd
tcp6       0      0 ip6-localhost:ipp       [::]:*                  LISTEN      532/cupsd
tcp6       0      0 [::]:http-alt           [::]:*                  LISTEN      534/java
tcp6       0      0 [::]:http               [::]:*                  LISTEN      628/nginx: master p
udp        0      0 0.0.0.0:44808           0.0.0.0:*                           2429/firefox
udp        0      0 localhost:domain        0.0.0.0:*                           330/systemd-resolve
udp        0      0 0.0.0.0:54491           0.0.0.0:*                           428/avahi-daemon: r
udp        0      0 0.0.0.0:mdns            0.0.0.0:*                           428/avahi-daemon: r
udp6       0      0 [::]:53912              [::]:*                              428/avahi-daemon: r
udp6       0      0 [::]:mdns               [::]:*                              428/avahi-daemon: r
raw6       0      0 [::]:ipv6-icmp          [::]:*                  7           432/NetworkManager
Active UNIX domain sockets (only servers)
Proto RefCnt Flags       Type       State         I-Node   PID/Program name     Path
unix  2      [ ACC ]     STREAM     LISTENING     8123     569/containerd       /run/containerd/containerd.sock.ttrpc
unix  2      [ ACC ]     STREAM     LISTENING     8125     569/containerd       /run/containerd/containerd.sock
unix  2      [ ACC ]     STREAM     LISTENING     10539    1723/systemd         /run/user/1000/systemd/private
unix  2      [ ACC ]     STREAM     LISTENING     10557    1723/systemd         /run/user/1000/bus
unix  2      [ ACC ]     STREAM     LISTENING     10563    1723/systemd         /run/user/1000/gnupg/S.dirmngr
unix  2      [ ACC ]     STREAM     LISTENING     10565    1723/systemd         /run/user/1000/gnupg/S.gpg-agent.browser
unix  2      [ ACC ]     STREAM     LISTENING     10567    1723/systemd         /run/user/1000/gnupg/S.gpg-agent.extra
unix  2      [ ACC ]     STREAM     LISTENING     10569    1723/systemd         /run/user/1000/gnupg/S.gpg-agent.ssh
unix  2      [ ACC ]     STREAM     LISTENING     10571    1723/systemd         /run/user/1000/gnupg/S.gpg-agent
```

```
vboxuser@Ubuntu:~/fetchData/backend$ ls
app.py  product.csv
vboxuser@Ubuntu:~/fetchData/backend$ nano app.py
vboxuser@Ubuntu:~/fetchData/backend$ python3 app.py
    id productName  price quantity
0  101        rice    200       1kg
1  102  vegetables    100       2kg
2  103      coffee    200      100g
```


Dashboard > Manage Jenkins > Plugins
Plugins
Updates
7
Available plugins
Installed plugins
Advanced settings
Download progress
Download progress
Preparation
Checking internet connectivity
Checking update center connectivity
Success
Kubernetes Client API
Success
Kubernetes Credentials
Success
Kubernetes
Success
Loading plugin extensions
Success
Go back to the top page
(you can start using the installed plugins right away)
Restart Jenkins when installation is complete and no jobs are running


Dashboard > kuber >
Status
Changes
Build Now
Configure
Delete Pipeline
Stages
Rename
Pipeline Syntax
Builds
Filter
/
Today
#1 1:27 PM
kuber
Permalinks
Last build (#1), 23 min ago
Last stable build (#1), 23 min ago
Last successful build (#1), 23 min ago
Last completed build (#1), 23 min ago