TASK 4

Step 1: Start Minikube

minikube start --driver=docker --force

Step 2: Create a Deployment

kubectl create deployment webapp --image=nginx --port=80

Step 3: Expose the Deployment as a Service

kubectl expose deployment webapp --type=NodePort --port=80 --target-port=80

Step 4: Verify the Running Pods

kubectl get pod

Step 5: Verify the Service

kubectl get svc

Step 6: Open the Service in a Web Browser

minikube service webapp

Step 7: Test the Service Using curl

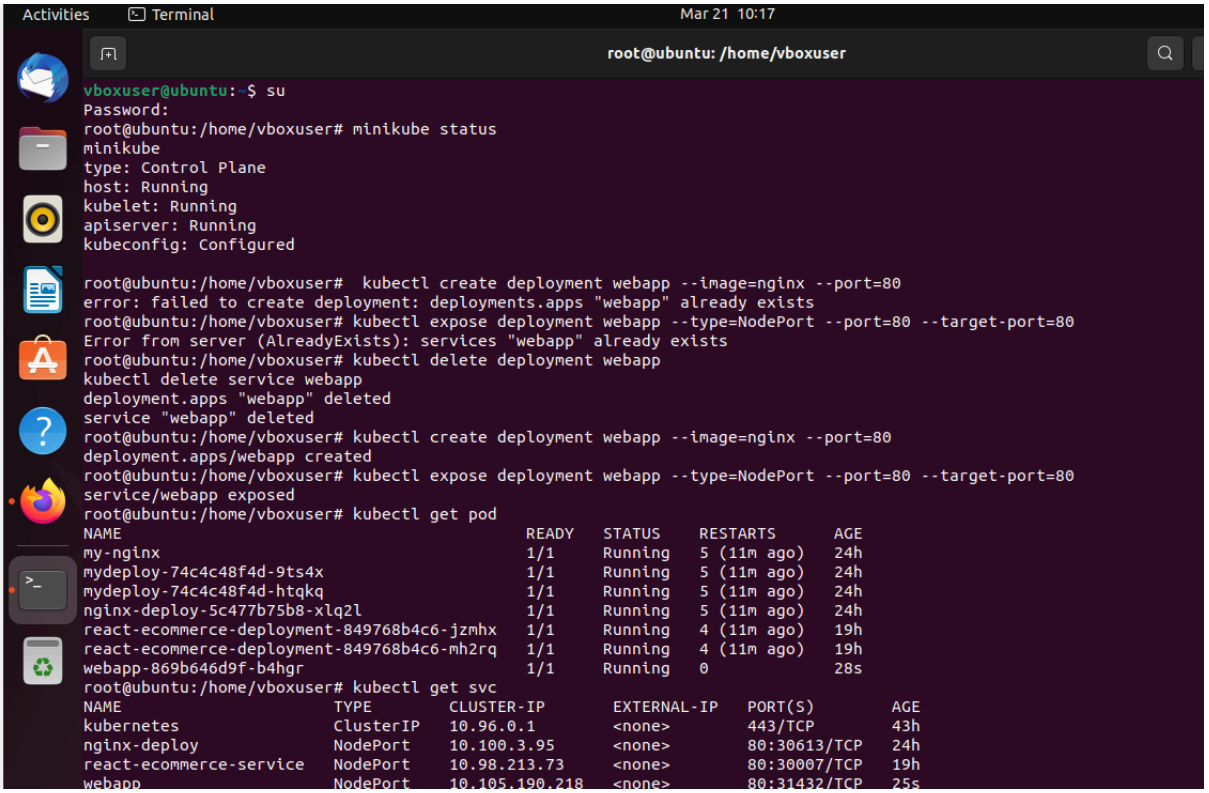
curl http://192.168.49.2:31432

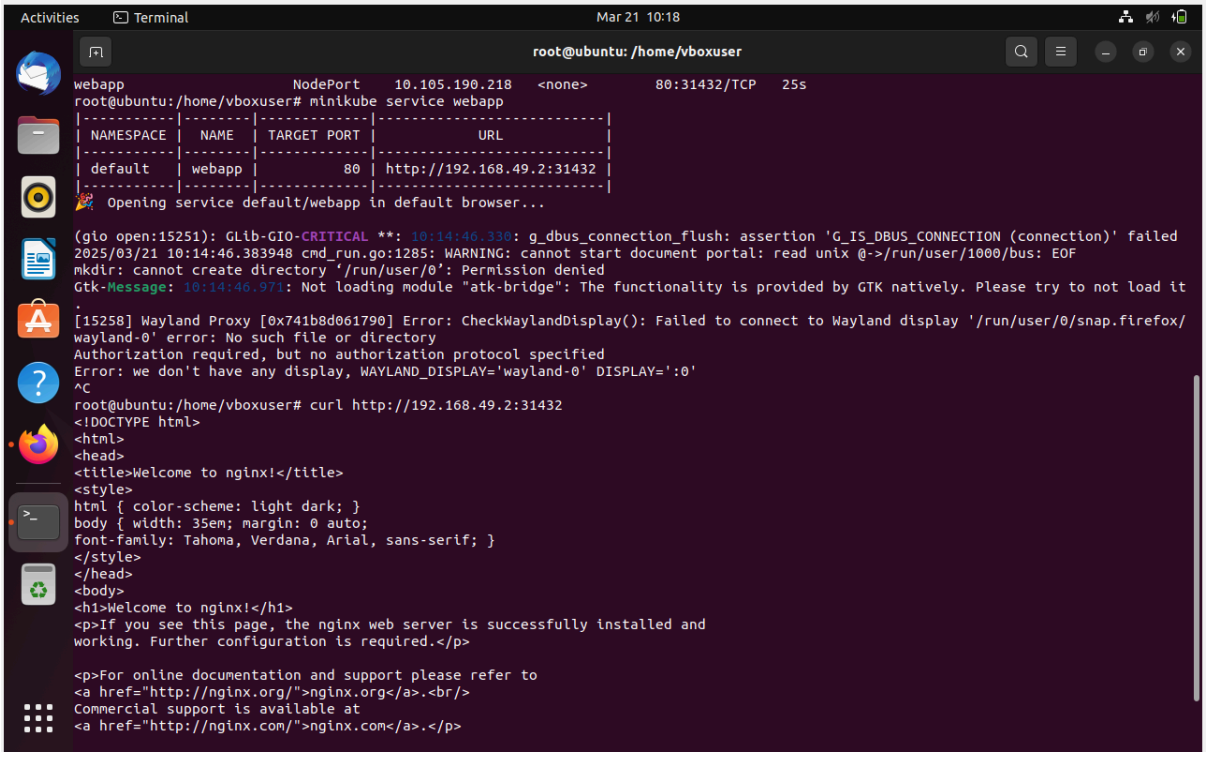
Step 8: Continuously Monitor the Pods

watch kubectl get pod

Step 9: Continuously Monitor Pod Logs

watch kubectl logs webapp-869b646d9f-b4hgr


Activities
Terminal
Mar 21 10:17
root@ubuntu: /home/vboxuser
vboxuser@ubuntu:~$ su
Password:
root@ubuntu:/home/vboxuser# minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
root@ubuntu:/home/vboxuser# kubectl create deployment webapp --image=nginx --port=80
error: failed to create deployment: deployments.apps "webapp" already exists
root@ubuntu:/home/vboxuser# kubectl expose deployment webapp --type=NodePort --port=80 --target-port=80
Error from server (AlreadyExists): services "webapp" already exists
root@ubuntu:/home/vboxuser# kubectl delete deployment webapp
kubectl delete service webapp
deployment.apps "webapp" deleted
service "webapp" deleted
root@ubuntu:/home/vboxuser# kubectl create deployment webapp --image=nginx --port=80
deployment.apps/webapp created
root@ubuntu:/home/vboxuser# kubectl expose deployment webapp --type=NodePort --port=80 --target-port=80
service/webapp exposed
root@ubuntu:/home/vboxuser# kubectl get pod
NAME READY STATUS RESTARTS AGE
my-nginx 1/1 Running 5 (11m ago) 24h
mydeploy-74c4c48f4d-9ts4x 1/1 Running 5 (11m ago) 24h
mydeploy-74c4c48f4d-htqkq 1/1 Running 5 (11m ago) 24h
nginx-deploy-5c477b75b8-xlq2l 1/1 Running 5 (11m ago) 24h
react-ecommerce-deployment-849768b4c6-jzmhx 1/1 Running 4 (11m ago) 19h
react-ecommerce-deployment-849768b4c6-mh2rq 1/1 Running 4 (11m ago) 19h
webapp-869b646d9f-b4hgr 1/1 Running 0 28s
root@ubuntu:/home/vboxuser# kubectl get svc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 43h
nginx-deploy NodePort 10.100.3.95 <none> 80:30613/TCP 24h
react-ecommerce-service NodePort 10.98.213.73 <none> 80:30007/TCP 19h
webapp NodePort 10.105.190.218 <none> 80:31432/TCP 25s


Activities
Terminal
Mar 21 10:18
root@ubuntu: /home/vboxuser
webapp NodePort 10.105.190.218 <none> 80:31432/TCP 25s
root@ubuntu:/home/vboxuser# minikube service webapp
| NAMESPACE | NAME | TARGET PORT | URL |
| default | webapp | 80 | http://192.168.49.2:31432 |
Opening service default/webapp in default browser...
(gio open:15251): GLib-GIO-CRITICAL **: 10:14:46.330: g_dbus_connection_flush: assertion 'G_IS_DBUS_CONNECTION (connection)' failed
2025/03/21 10:14:46.383948 cmd_run.go:1285: WARNING: cannot start document portal: read unix @->/run/user/1000/bus: EOF
mkdir: cannot create directory '/run/user/0': Permission denied
Gtk-Message: 10:14:46.971: Not loading module "atk-bridge": The functionality is provided by GTK natively. Please try to not load it
.
[15258] Wayland Proxy [0x741b8d061790] Error: CheckWaylandDisplay(): Failed to connect to Wayland display '/run/user/0/snap.firefox/
wayland-0' error: No such file or directory
Authorization required, but no authorization protocol specified
Error: we don't have any display, WAYLAND_DISPLAY='wayland-0' DISPLAY=':0'
^C
root@ubuntu:/home/vboxuser# curl http://192.168.49.2:31432
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.
For online documentation and support please refer to
nginx.org.
Commercial support is available at
nginx.com.

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<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
root@ubuntu:/home/vboxuser# watch kubectl get pod
root@ubuntu:/home/vboxuser# watch kubectl logs webapp-869b646d9f-b4hgr
root@ubuntu:/home/vboxuser#
```

Output: