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

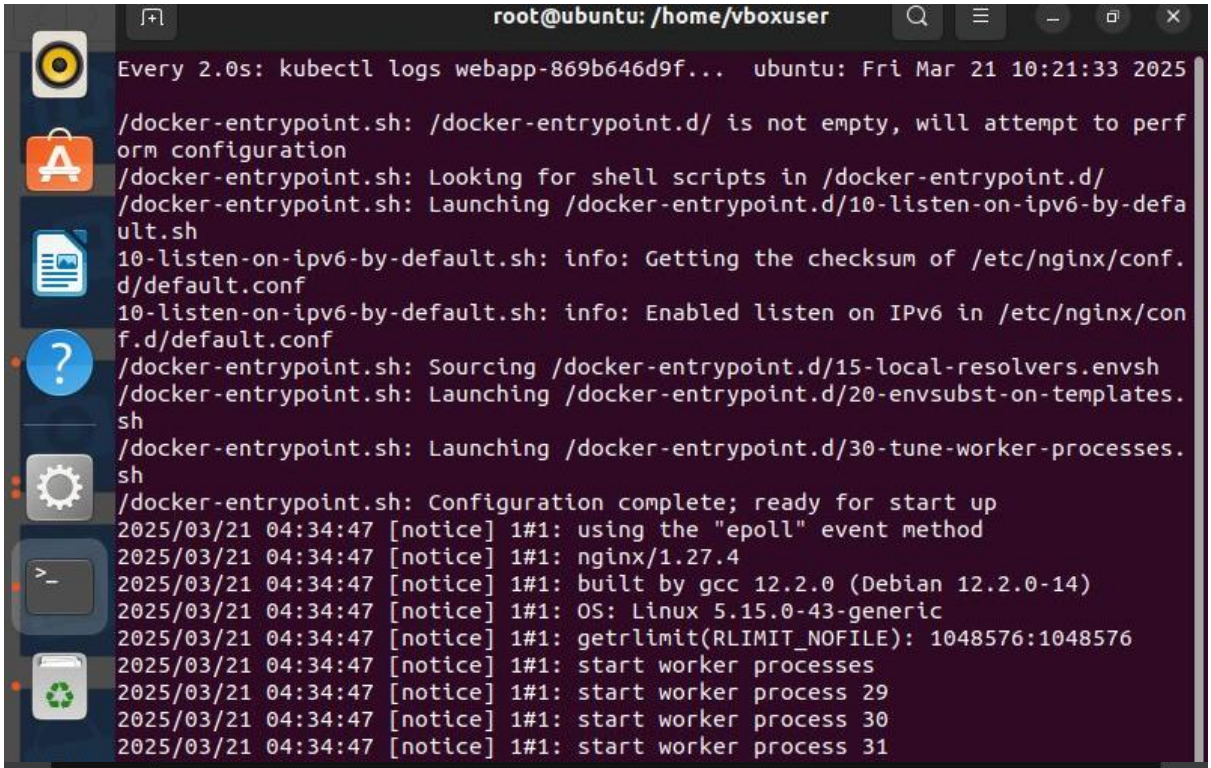
curl http://192.168.49.2:32172

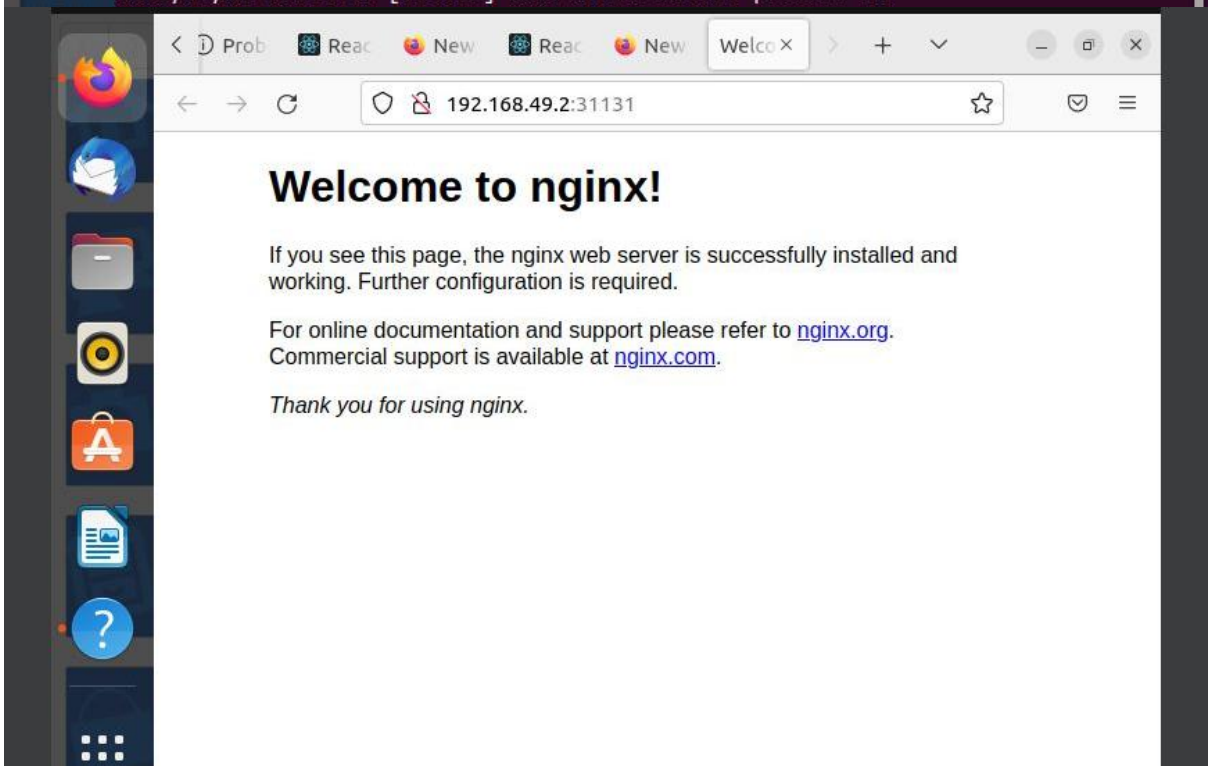
Step 8: Continuously Monitor the Pods

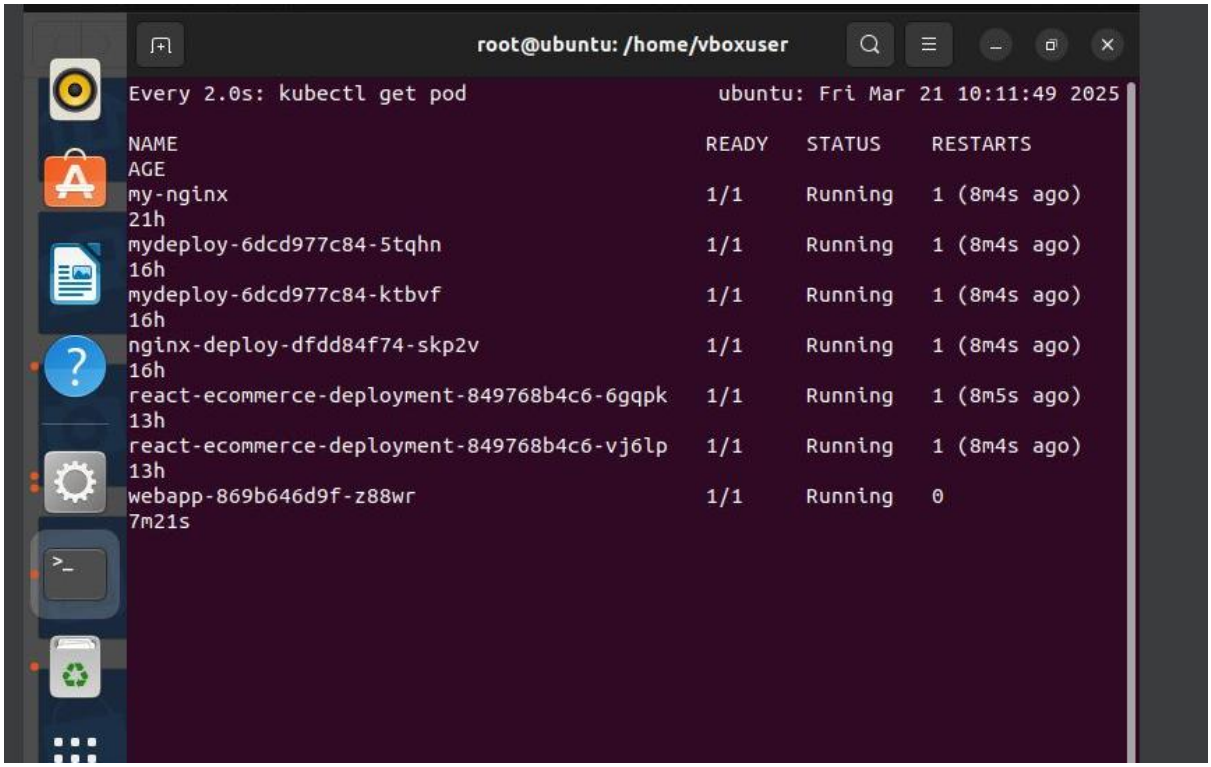
watch kubectl get pod

Step 9: Continuously Monitor Pod Logs

watch kubectl logs webapp-869b646d9f-5nlp5


root@ubuntu: /home/vboxuser
Every 2.0s: kubectl logs webapp-869b646d9f... ubuntu: Fri Mar 21 10:21:33 2025
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2025/03/21 04:34:47 [notice] 1#1: using the "epoll" event method
2025/03/21 04:34:47 [notice] 1#1: nginx/1.27.4
2025/03/21 04:34:47 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2025/03/21 04:34:47 [notice] 1#1: OS: Linux 5.15.0-43-generic
2025/03/21 04:34:47 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2025/03/21 04:34:47 [notice] 1#1: start worker processes
2025/03/21 04:34:47 [notice] 1#1: start worker process 29
2025/03/21 04:34:47 [notice] 1#1: start worker process 30
2025/03/21 04:34:47 [notice] 1#1: start worker process 31


192.168.49.2:31131
Welcome to nginx!
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.
Thank you for using nginx.


root@ubuntu: /home/vboxuser
Every 2.0s: kubectl get pod
ubuntu: Fri Mar 21 10:11:49 2025
NAME
READY
STATUS
RESTARTS
AGE
my-nginx
1/1
Running
1 (8m4s ago)
21h
mydeploy-6dcd977c84-5tqhn
1/1
Running
1 (8m4s ago)
16h
mydeploy-6dcd977c84-ktbvf
1/1
Running
1 (8m4s ago)
16h
nginx-deploy-dfdd84f74-skp2v
1/1
Running
1 (8m4s ago)
16h
react-ecommerce-deployment-849768b4c6-6gqpk
1/1
Running
1 (8m5s ago)
13h
react-ecommerce-deployment-849768b4c6-vj6lp
1/1
Running
1 (8m4s ago)
13h
webapp-869b646d9f-z88wr
1/1
Running
0
7m21s