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

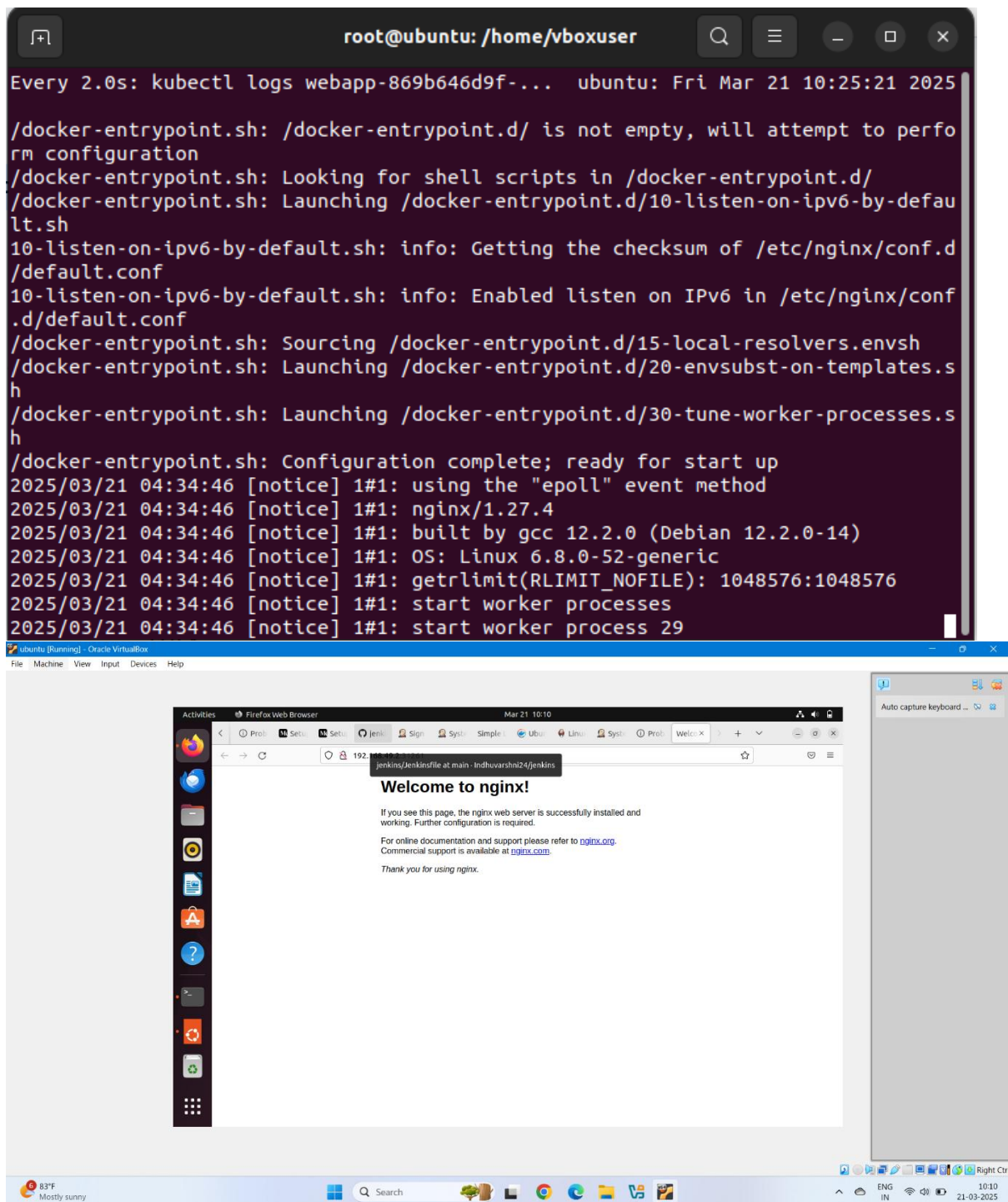minikube service webapp

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

Every 2.0s: kubectl logs webapp-869b646d9f-... ubuntu: Fri Mar 21 10:25:21 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 04:34:46 [notice] 1#1: using the "epoll" event method
2025/03/21 04:34:46 [notice] 1#1: nginx/1.27.4
2025/03/21 04:34:46 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2025/03/21 04:34:46 [notice] 1#1: OS: Linux 6.8.0-52-generic
2025/03/21 04:34:46 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2025/03/21 04:34:46 [notice] 1#1: start worker processes
2025/03/21 04:34:46 [notice] 1#1: start worker process 29

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.

```
Every 2.0s: kubectl get pod                      ubuntu: Fri Mar 21 10:11:54 2025

NAME                           READY   STATUS    RESTARTS        AGE
my-nginx                       1/1     Running   1 (8m10s ago)   20h
mydeploy-74c4c48f4d-2w94h      1/1     Running   1 (8m10s ago)   20h
mydeploy-74c4c48f4d-rpvqz      1/1     Running   1 (8m9s ago)    20h
nginx-deploy-5c477b75b8-pg68p  1/1     Running   1 (8m9s ago)    20h
webapp-869b646d9f-s9zf6        1/1     Running   0               7m13s
```