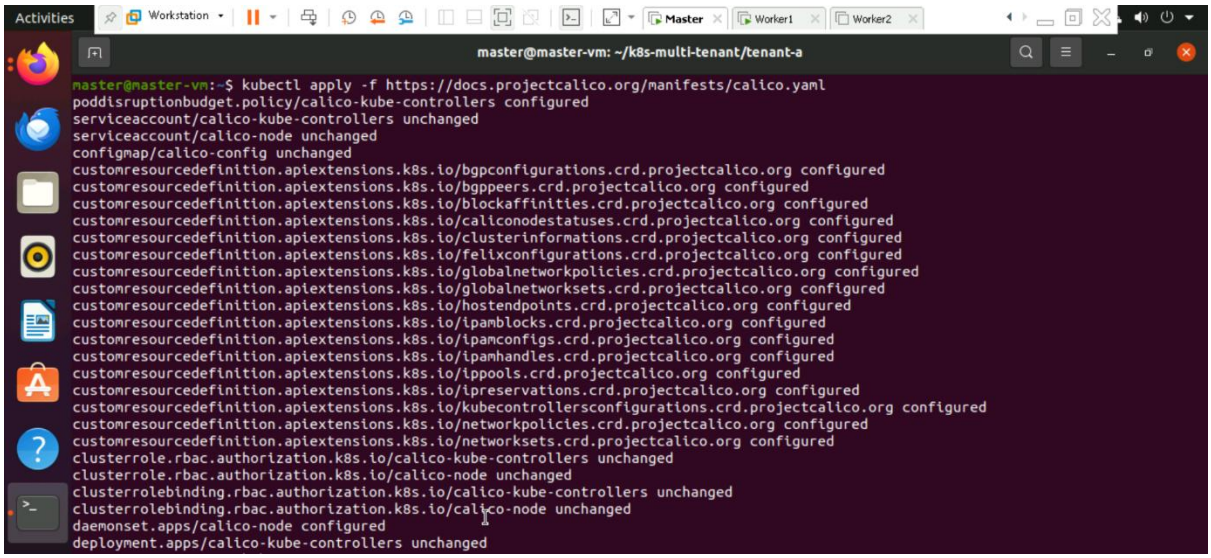
Kubernetes Multi-Tenant Project

Step 1: Check if Any Worker Node is Ready

- kubectl get nodes

Step 2: Install Calico for Networking

- kubectl apply -f https://docs.projectcalico.org/manifests/calico.yaml



Step 3: Create Namespaces for Tenants

- kubectl create namespace tenant-a

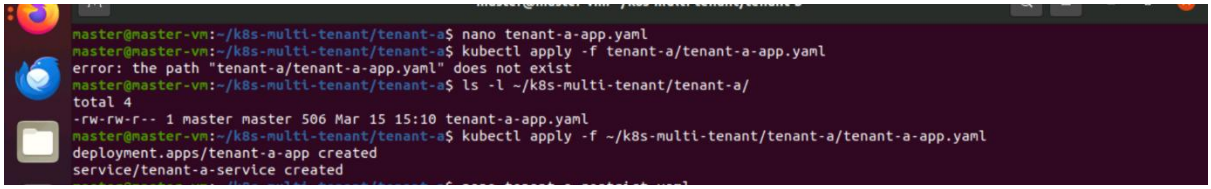
- kubectl create namespace tenant-b

Step 4: Create Folder Structure for YAML Files

- mkdir -p ~/k8s-multi-tenant/tenant-a
- mkdir -p ~/k8s-multi-tenant/tenant-b
- cd ~/k8s-multi-tenant

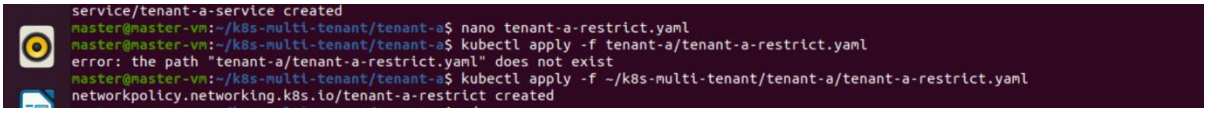
Step 5: Create Deployment and Service for Tenant A and apply the configuration.

- kubectl apply -f tenant-a/tenant-a-app.yaml



Step 6: Restrict Network Access for Tenant A and apply the network policy.

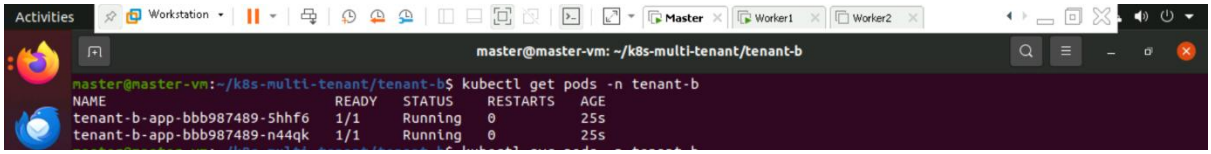
- kubectl apply -f tenant-a/tenant-a-restrict.yaml

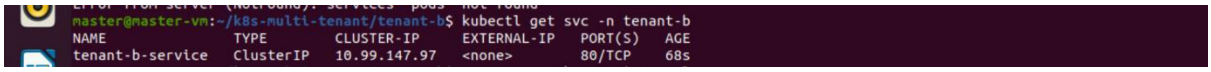


Step 7: Create Deployment and Service for Tenant B and apply the deployment.

- kubectl apply -f tenant-b/tenant-b-app.yaml

Verify the Deployment



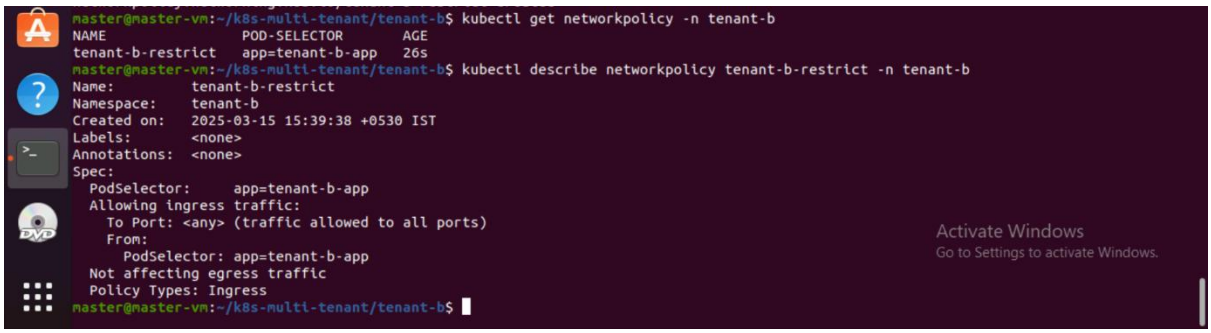


Step 8: Restrict Network Access for Tenant B and Apply the network policy.

- kubectl apply -f tenant-b/tenant-b-restrict.yaml

Step 9: Verify Network Policy

- kubectl get networkpolicy -n tenant-b
- kubectl describe networkpolicy tenant-b-restrict -n tenant-b



Step 10: Test Tenant Isolation

- docker pull alpine

- kubectl run test-pod --image=alpine -n tenant-b --restart=Never -- sleep 3600
- kubectl exec -it test-pod -n tenant-b -- wget --spider tenant-a-service.tenant-a