**Install the K8 cluster on ROCKY.**

**🡪**create 1 VPC.

🡪create 3 subnets.

🡪create 1 router.

🡪create IG

🡪create 3 ec2 in (rocky)

**🡪open command prompt (**first search aws s3 ls**)**

**🡪 ssh -i "C:\Users\sudhe\Downloads\navyakey.pem"** [**rocky@18.212.171.5**](mailto:rocky@18.212.171.5)

**(**here first take the key path and keep rocky instead of root)

🡪https://www.linuxtechi.com/install-kubernetes-on-rockylinux-almalinux/

🡪 sudo hostnamectl set-hostname “k8s-master01” && exec bash

🡪sudo swapoff -a

🡪 sudo sed -i '/ swap / s/^\(.\*\)$/#\1/g' /etc/fstab

🡪sudo setenforce 0

🡪sudo sed -i --follow-symlinks 's/SELINUX=enforcing/SELINUX=permissive/g' /etc/sysconfig/selinux

🡪sudo yum install firewalld

🡪sudo dnf install firewalld

🡪sudo systemctl start firewalld

**These 3 commands are only in master node**

🡪sudo firewall-cmd --permanent --add-port={6443,2379,2380,10250,10251,10252,10257,10259,179}/tcp

🡪sudo firewall-cmd --permanent --add-port=4789/udp

🡪sudo firewall-cmd --reload

**These 3 commands On the Worker Nodes, allow beneath ports in the firewall.**

**🡪**sudo firewall-cmd --permanent --add-port={179,10250,30000-32767}/tcp

**🡪**sudo firewall-cmd --permanent --add-port=4789/udp

**🡪**sudo firewall-cmd --reload

**From now give commands on master and worker**

**🡪**sudo modprobe overlay

**🡪**sudo modprobe br\_netfilter

**🡪**sudo vi /etc/sysctl.d/k8s.conf(first give this)

**🡪**net.bridge.bridge-nf-call-iptables  = 1

net.ipv4.ip\_forward                 = 1

net.bridge.bridge-nf-call-ip6tables = 1

🡪sudo sysctl --system

🡪sudo dnf config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo

🡪sudo dnf install containerd.io -y

🡪containerd config default | sudo tee /etc/containerd/config.toml >/dev/null 2>&1

🡪sudo sed -i 's/SystemdCgroup \= false/SystemdCgroup \= true/g' /etc/containerd/config.toml

🡪sudo systemctl restart containerd

🡪sudo systemctl enable containerd

🡪sudo systemctl status containerd

🡪cat <<EOF | sudo tee /etc/yum.repos.d/kubernetes.repo

[kubernetes]

name=Kubernetes

baseurl=https://pkgs.k8s.io/core:/stable:/v1.28/rpm/

enabled=1

gpgcheck=1

gpgkey=https://pkgs.k8s.io/core:/stable:/v1.28/rpm/repodata/repomd.xml.key

exclude=kubelet kubeadm kubectl cri-tools kubernetes-cni

EOF

🡪sudo yum install -y kubelet kubeadm kubectl --disableexcludes=kubernetes

🡪sudo systemctl enable --now kubelet

**Give this is in only the master node.**

**🡪**sudo kubeadm init

**🡪kubectl get nodes(**not ready all)

🡪in master node only

🡪kubectl apply -f https://raw.githubusercontent.com/projectcalico/calico/v3.26.1/manifests/calico.yaml

🡪kubectl get pods -n kube-system

🡪kubectl get nodes (already) kubectl create deployment web-app01 --image nginx --replicas 2

🡪 kubectl expose deployment web-app01 --type NodePort --port 80

🡪kubectl get deployment web-app01

🡪kubectl get pods

🡪kubectl get svc web-app01

🡪curl (publicipworkernode):port