

Kubernetes Upgrade Guideline: v1.32.x → v1.33.3

Prerequisites

1. Backup your cluster (etcd + important manifests).
2. Ensure sudo/root access on all nodes.
3. Configure apt repositories for Kubernetes v1.33:

```
sudo apt-get install -y apt-transport-https ca-certificates curl gpg
sudo mkdir -p /etc/apt/keyrings
curl -fsSL https://pkgs.k8s.io/core:/stable:/v1.33/deb/Release.key | sudo
gpg --dearmor -o /etc/apt/keyrings/kubernetes-apt-keyring.gpg

echo 'deb [signed-by=/etc/apt/keyrings/kubernetes-apt-keyring.gpg]
https://pkgs.k8s.io/core:/stable:/v1.33/deb/ /' | sudo tee
/etc/apt/sources.list.d/kubernetes.list

sudo apt-get update
```

Step 1: Upgrade Control Plane (Master Node)

1.1 Upgrade kubeadm

```
sudo apt-mark unhold kubeadm
sudo apt-get install -y kubeadm=1.33.3-*
sudo apt-mark hold kubeadm
kubeadm version
```

1.2 Plan the upgrade

```
sudo kubeadm upgrade plan
```

1.3 Apply upgrade

```
sudo kubeadm upgrade apply v1.33.3
```

1.4 Upgrade kubelet and kubectl

```
sudo apt-mark unhold kubelet kubectl
sudo apt-get install -y kubelet=1.33.3-* kubectl=1.33.3-*
```

```
sudo apt-mark hold kubelet kubectll  
sudo systemctl daemon-reload  
sudo systemctl restart kubelet
```

Step 2: Upgrade Worker Nodes

Repeat these steps for **each worker node, one at a time**.

2.1 Cordon & drain worker

```
kubectll cordon <worker-node-name>  
kubectll drain <worker-node-name> --ignore-daemonsets --delete-emptydir-data
```

2.2 Upgrade kubeadm

```
sudo apt-mark unhold kubeadm  
sudo apt-get install -y kubeadm=1.33.3-*  
sudo apt-mark hold kubeadm
```

2.3 Upgrade node configuration

```
sudo kubeadm upgrade node
```

2.4 Upgrade kubelet and kubectll

```
sudo apt-mark unhold kubelet kubectll  
sudo apt-get install -y kubelet=1.33.3-* kubectll=1.33.3-*  
sudo apt-mark hold kubelet kubectll  
sudo systemctl daemon-reload  
sudo systemctl restart kubelet
```

2.5 Uncordon the node

```
kubectll uncordon <worker-node-name>
```

2.6 Repeat

Do Step 2 for all remaining worker nodes.

Step 3: Verify Cluster

```
kubectl get nodes -o wide  
kubectl get pods -A  
kubectl get cs
```

- All nodes should show **v1.33.3**.
- All pods should be **Running** or **Completed**.

Step 4: Optional Post-Upgrade Tasks

- Upgrade CNI plugin if required.
- Check CoreDNS version:

```
kubectl get deployment -n kube-system coredns -o yaml | grep image
```

- Update etcd snapshot backup schedule.
- Remove deprecated manifests if any.

Notes

- Upgrade control plane first, then workers.
- Upgrade kubeadm before **kubeadm upgrade apply**.
- Always cordon + drain workers before upgrading kubelet.
- Hold packages after upgrade to prevent accidental downgrades.