KUBEADM UPGRADE

My Kubernetes cluster Current Version

```
root@Asad-PC:/mnt/d/Devops/k8s/k8sCluster_kubeadm_terraform (master)
$ kgn
NAME
           STATUS
                    ROLES
                                     AGE
                                           VERSION
                    control-plane
                                           v1.25.16
master
           Readv
                                     87m
worker-0
           Ready
                    <none>
                                     86m
                                           v1.25.16
worker-1
           Readv
                    <none>
                                     86m
                                           v1.25.16
```

```
ubuntu@ip-172-31-22-28:~$ sudo -i
root@ip-172-31-22-28:~# kubeadm version -o json
{
    "clientVersion": {
        "major": "1",
        "minor": "25",
        "gitVersion": "v1.25.16",
        "gitCommit": "c5f43560a4f98f2af3743a59299fb79f07924373",
        "gitTreeState": "clean",
        "buildDate": "2023-11-15T22:36:51Z",
        "goVersion": "go1.20.10",
        "compiler": "gc",
        "platform": "linux/amd64"
    }
}
```

```
root@ip-172-31-22-28:-# sudo apt update

Hit:1 http://u-east-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease

Hit:2 http://u-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease

Hit:3 http://u-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease

Hit:3 http://u-east-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease

Hit:3 http://scentil.ec2.archive.ubuntu.com/ubuntu bionic-security InRelease

Hit:3 http://scentil.ec2.archive.ubuntu.com/ubuntu bionic-security InRelease

Hit:3 http://scentil.ec2.archive.ubuntu.com/ubuntu bionic-security InRelease

Hit:3 http://scentil.ec2.archive.ubuntu.com/ubuntu bionic-security InRelease

Reading package lists. Sone

Reading package lists. Sone

Reading state information ... Done

9 packages can be uppraded. Run 'apt list --upgradable' to see them.

root@ip-172-31-22-28:-# sudo apt-cache madison kubeadm lac

Reading state information ... Done

9 packages can be uppraded. Run 'apt list --upgradable' to see them.

root@ip-172-31-22-28:-# sudo apt-cache madison kubeadm lac

Rubeadm l.25.1-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.1-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.3-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.5-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.5-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.9-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.9-1.1 https://pkgs.k8s.io/core:/stable:/vl.25/deb

Rubeadm l.25.1-1.1 https://pkgs.k8s.i
```

```
root8ip-172-31-22-28:/etc/apt/sources.list.d# sudo apt-cache madison kubeadm | tac kubeadm | 1.26.0-2.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.2-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.2-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.3-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.3-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.1-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.5-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.7-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.7-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.7-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/deb Packages kubeadm | 1.26.1-1.1 | https://pkgs.k8s.io/core:/stable:/v1.26/
```

root@ip-172-31-22-28:/etc/apt/sources.list.d# sudo apt-mark hold kubeadm kubeadm set on hold.

Now upgrading to Kubeadm version from kubeadm=1.25.16-1.1 to kubeadm=1.26.3-1.1

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```

```
root@ip-172-31-22-28:/etc/apt/sources.list.d# kubeadm version -o json

{
    "clientVersion": {
        "major": "1",
        "minor": "26",
        "gitVersion": "v1.26.3",
        "gitCommit": "9e644106593f3f4aa98f8a84b23db5fa378900bd",
        "gitTreeState": "clean",
        "buildDate": "2023-03-15T13:38:47Z",
        "goVersion": "go1.19.7",
        "compiler": "gc",
        "platform": "linux/amd64"
    }
}
```

```
root@ip-172-31-22-28:/etc/apt/sources.list.d# sudo apt-mark unhold kubelet kubectl
kubelet was already not hold.
kubectl was already not hold.
root@ip-172-31-22-28:/etc/apt/sources.list.d# sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu bionic-security InRelease
Hit:5 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb InRelease
Reading package lists... Done
```

```
root@ip-172-31-22-28:~# sudo apt-mark unhold kubelet kubectl
kubelet was already not hold.
kubectl was already not hold.
root@ip-172-31-27-28:~# sudo apt-get install -y kubelet=1.26.3-1.1 kubectl=1.26.3-1.1
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
    kubectl kubelet
2 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
Need to get 30.6 MB of archives.
After this operation, 7990 kB of additional disk space will be used.
Get:1 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubectl 1.26.3-1.1 [10.1 MB]
Get:2 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubelet 1.26.3-1.1 [20.5 MB]
Fetched 30.6 MB in 2s (13.5 MB/s)
(Reading database ... 58639 files and directories currently installed.)
Preparing to unpack .../kubectl_1.26.3-1.1_amd64.deb ...
Unpacking kubectl (1.26.3-1.1) over (1.25.16-1.1) ...
Preparing to unpack .../kubeletl.26.3-1.1_amd64.deb ...
Unpacking kubeett (1.26.3-1.1) over (1.25.16-1.1) ...
Setting up kubectl (1.26.3-1.1) ...
```

```
root@Asad-PC:~
$ kubectl uncordon master
node/master uncordoned
```

Now master node is upgraded to newer version

```
root@Asad-PC:~
$ kubectl get nodes
           STATUS
NAME
                    ROLES
                                    AGE
                                           VERSION
                                           v1.26.3
           Readv
                    control-plane
                                    143m
master
           Ready
                                           v1.25.16
                                    142m
worker-0
                    <none>
                                           v1.25.16
worker-1
           Readv
                                    142m
                    <none>
```

Now repeating the same process on worker nodes

```
root@ip-172-31-23-54:/etc/apt/keyrings# sudo apt-get install -y kubeadm=1.26.3-1.1
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
kubeadm
1 upgraded, 0 newly installed, 0 to remove and 11 not upgraded.
Need to get 9750 kB of archives.
After this operation, 2150 kB of additional disk space will be used.
Get:1 https://prod-cdn.packages.kBs.io/repositories/isv:/kubernetes/core:/stable:/v1.26/deb kubeadm 1.26.3-1.1 [9750 kB]
Fetched 9750 kB in 05 (28.6 MB/5)
(Reading database ... $8639 files and directories currently installed.)
Preparing to unpack ... 'kubeadm_1.26.3-1.1 amd6d.deb ...
Unpacking kubeadm (1.26.3-1.1) over (1.25.16-1.1) ...
Setting up kubeadm (1.26.3-1.1) over (1.25.16-1.1) ...
Setting up kubeadm (1.26.3-1.1)
root@ip-172-31-23-54:/etc/apt/keyrings# sudo apt-mark hold kubeadm kubeadm set on hold.
root@ip-172-31-23-54:/etc/apt/keyrings# sudo kubeadm upgrade node
lupgrade] Reading configuration from the cluster...
lupgrade] FYI: You can look at this config file with 'kubectl -n kube-system get cm kubeadm-config -o yaml'
We3805 18-49-26.022374 18290 configurat.jom'; strict decoding error: unknown field "udpIdleTimeout"
[preflight] Running pre-flight checks
[preflight] The configuration for this node was successfully updated!
[lupgrade] How you should go ahead and upprade the kubelet package using your package manager.
root@ip-172-31-23-54:/etc/apt/keyrings#
```

```
root@Asad-PC:~
$ kubectl drain worker-1 --ignore-daemonsets
node/worker-1 cordoned
WARNING: ignoring DaemonSet-managed Pods: kube-system/calico-node-9xfzg, kube-system/kube-proxy-qn2h4
evicting pod kube-system/coredns-565d847f94-pp8zr
pod/coredns-565d847f94-pp8zr evicted
node/worker-1 evicted
```

```
root@ip-172-31-23-54:/etc/apt/keyrings# sudo apt-get install -y kubelet=1.26.3-1.1 kubectl=1.26.3-1.1
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
    kubectl kubelet
2 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
Need to get 30.6 MB of archives.
After this operation, 7990 kB of additional disk space will be used.
Get:1 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubectl 1.26.3-1.1 [10.1 MB]
Get:2 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubectl 1.26.3-1.1 [20.5 MB]
Fetched 30.6 MB in 1s (38.1 MB/s)
(Reading database ... 58639 files and directories currently installed.)
Preparing to unpack .../kubectl_1.26.3-1.1_amd64.deb ...
Unpacking kubectl (1.26.3-1.1) over (1.25.16-1.1) ...
Preparing to unpack .../kubelet_1.26.3-1.1_amd64.deb ...
Unpacking kubelet (1.26.3-1.1) over (1.25.16-1.1) ...
Setting up kubelet (1.26.3-1.1) ...
Setting up kubectl (1.26.3-1.1) ...
```

```
$ kubectl drain worker-1 --ignore-daemonsets
node/worker-1 cordoned
WARNING: ignoring DaemonSet-managed Pods: kube-system/calico-node-9xfzg, kube-system/kube-proxy-qn2h4 evicting pod kube-system/coredns-565d847f94-pp8zr pod/coredns-565d847f94-pp8zr evicted
node/worker-1 evicted
root@Asad-PC:~
$ kubectl uncordon worker-1
node/worker-1 uncordoned
$ kubectl get nodes
                           ROLES
                                                 ΔGF
                                                           VERSION
NAME
               STATUS
                           control-plane
                                                 174m v1.26.3
174m v1.25.16
               Ready
master
worker-0
               Ready
                            <none>
worker-1 Ready
                            <none>
```

Upgrading the other worker node

```
root@ip=172-31-25-195:/etc/apt/keyrings# sudo apt-get install -y kubeadm=1.26.3-1.1
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
kubeadm
1 upgraded, 0 newly installed, 0 to remove and 11 not upgraded.
Need to get 9750 kB of archives.
After this operation, 2150 kB of additional disk space will be used.
Get:1 https://prod-cdn.packages.kBs.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubeadm 1.26.3-1.1 [9750 kB]
Fetched 9750 kB in 09 s. 05.3 MB/3)
(Reading database ... $8639 files and directories currently installed.)
Preparing to unpack ... /kubeadm=1.26.3-1.1_amd64.deb ...
Unpacking kubeadm (1.26.3-1.1) over (1.25.16-1.1) ...
Setting up root@ip=172-31-25-195:/etc/apt/keyrings# sudo apt-mark hold kubeadm
kubeadm set on hold.
root@ip=172-31-25-195:/etc/apt/keyrings# sudo kubeadm upgrade node
[upgrade] Reading configuration from the cluster...
W0305 11:03:32.034687 27926 configset.go:177] error unmarshaling configuration schema.GroupVersionKind(Group:*kubeproxy.config.k8s.io*, Version:*vlalphal*
[preflight] Running pre-flight checks
[preflight] Skipping pase. Not a control plane node.
[upgrade] Skipping phase. Not a control plane node.
[upgrade] Skipping phase. Not a control plane node.
[upgrade] The configuration for this node was successfully updated!
[upgrade] The configuration for this node was successfully updated!
[upgrade] The configuration for this node was successfully updated!
[upgrade] Now you should go ahead and upgrade the kubelet package using your package manager.
root@ip=172-31-25-195:/etc/apt/keyrings#
```

```
root@Asad-PC:~
$ kubectl drain worker-0 --ignore-daemonsets
node/worker-0 cordoned
WARNING: ignoring DaemonSet-managed Pods: kube-system/calico-node-n7x6p, kube-system/kube-proxy-h42lx
evicting pod kube-system/coredns-565d847f94-rqvw5
evicting pod kube-system/calico-kube-controllers-74677b4c5f-thn6h
pod/calico-kube-controllers-74677b4c5f-thn6h evicted
pod/coredns-565d847f94-rqvw5 evicted
node/worker-0 evicted
```

```
root@ip-172-31-25-195:/etc/apt/keyrings# sudo apt-get install -y kubelet=1.26.3-1.1 kubectl=1.26.3-1.1
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
   kubectl kubelet
2 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
Need to get 30.6 MB of archives.
After this operation, 7990 kB of additional disk space will be used.
Get:1 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubectl 1.26.3-1.1 [10.1 MB]
Get:2 https://prod-cdn.packages.k8s.io/repositories/isv:/kubernetes:/core:/stable:/v1.26/deb kubectl 1.26.3-1.1 [20.5 MB]
Fetched 30.6 MB in 1s (23.1 MB/s)
(Reading database ... 58639 files and directories currently installed.)
Preparing to unpack .../kubectl_1.26.3-1.1_amd64.deb ...
Unpacking kubectl (1.26.3-1.1) over (1.25.16-1.1) ...
Preparing to unpack .../kubelet_1.26.3-1.1_amd64.deb ...
Unpacking kubelet (1.26.3-1.1) over (1.25.16-1.1) ...
Setting up kubelet (1.26.3-1.1) ...
Setting up kubectl (1.26.3-1.1) ...
Setting up kubectl (1.26.3-1.1) ...
setting up kubectl (1.26.3-1.1) ...
root@ip-172-31-25-195:/etc/apt/keyrings#
```

```
root@Asad-PC:~
$ kubectl uncordon worker-0
node/worker-0 uncordoned
root@Asad-PC:~
```

Now cluster is fully upgraded

From that to

```
root@Asad-PC:/mnt/d/Devops/k8s/k8sCluster_kubeadm_terraform (master)
$ kgn
NAME
           STATUS
                     ROLES
                                      AGE
                                            VERSION
                                            v1.25.16
           Ready
                     control-plane
                                     87m
master
                                            v1.25.16
worker-0
           Ready
                                     86m
                     <none>
                                            v1.25.16
worker-1
                                     86m
           Ready
                     <none>
```

This version

```
root@Asad-PC:~
$ kubectl get nodes
           STATUS
NAME
                     ROLES
                                      AGE
                                              VERSION
           Ready
                     control-plane
                                      3h7m
                                              v1.26.3
master
worker-0
           Ready
                                      3h6m
                                              v1.26.3
                     <none>
worker-1
           Ready
                                              v1.26.3
                     <none>
                                      3h6m
```