Upgrading K8s with kubeadm

Relevant Documentation

- Upgrading kubeadm Clusters

Lesson Reference

First, upgrade the control plane node.

Drain the control plane node.

```
kubectl drain k8s-control --ignore-daemonsets
```

Upgrade kubeadm.

```
sudo apt-get update && \
sudo apt-get install -y --allow-change-held-packages kubeadm=1.22.2-00

kubeadm version
```

Plan the upgrade.

```
sudo kubeadm upgrade plan v1.22.2
```

Upgrade the control plane components.

```
sudo kubeadm upgrade apply v1.22.2
```

Upgrade kubelet and kubectl on the control plane node.

```
sudo apt-get update && \
sudo apt-get install -y --allow-change-held-packages kubelet=1.22.2-00 kubectl=1.22.2-00
```

Restart kubelet.

```
sudo systemctl daemon-reload

sudo systemctl restart kubelet
```

Uncordon the control plane node.

```
kubectl uncordon k8s-control
```

Verify that the control plane is working.

```
kubectl get nodes
```

Upgrade the worker nodes.

Note: In a real-world scenario, you should not perform upgrades on all worker nodes at the same time. Make sure enough nodes are available at any given time to provide uninterrupted service.

Run the following on the control plane node to drain worker node 1:

```
kubectl drain k8s-worker1 --ignore-daemonsets --force
```

Log in to the first worker node, then Upgrade kubeadm.

```
sudo apt-get update && \
sudo apt-get install -y --allow-change-held-packages kubeadm=1.22.2-00
```

Upgrade the kubelet configuration on the worker node.

```
sudo kubeadm upgrade node
```

Upgrade kubelet and kubectl on the worker node.

```
sudo apt-get update && \
sudo apt-get install -y --allow-change-held-packages kubelet=1.22.2-00 kubectl=1.22.2-00
```

Restart kubelet.

```
sudo systemctl daemon-reload

sudo systemctl restart kubelet
```

From the control plane node, uncordon worker node 1.

```
kubectl uncordon k8s-worker1
```

Repeat the upgrade process for worker node 2.

From the control plane node, drain worker node 2.

```
kubectl drain k8s-worker2 --ignore-daemonsets --force
```

On the second worker node, upgrade kubeadm.

```
sudo apt-get update && \
sudo apt-get install -y --allow-change-held-packages kubeadm=1.22.2-00
```

Perform the upgrade on worker node 2.

```
sudo kubeadm upgrade node

sudo apt-get update && \
sudo apt-get install -y --allow-change-held-packages kubelet=1.22.2-00 kubectl=1.22.2-00

sudo systemctl daemon-reload

sudo systemctl restart kubelet
```

From the control plane node, uncordon worker node 2.

```
kubectl uncordon k8s-worker2
```

Verify that the cluster is upgraded and working.

```
kubectl get nodes
```