**Lesson 3 Demo 10**

**Upgrading Control Plane's Kubernetes Versions**

**Objective:** Learn to upgrade the kubeadm, kubectl, and kubelet versions of the control plane

**Tools required:** kubeadm, kubectl, and kubelet

**Prerequisites:** kubeadm, kubectl, and kubelet should be installed

**Note 1:** Assisted Practice is based on Kubernetes version 1.23

**Note 2:** Make sure you have executed **sudo kubeadm reset** on all machines, which will clean up the entire cluster.

Steps to be followed:

1. Determining which version to upgrade
2. Finding the latest patch release of Kubernetes
3. Verifying the current version of Kubernetes
4. Upgrading the repositories
5. Holding the Kubernetes versions
6. Upgrading the control plane
7. Verifying the updated version of Kubernetes

**Step 1: Determining which version to upgrade**

* 1. Check which version to upgrade using the following command:

**sudo apt update**

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**Step 2:** **Finding the latest release of Kubernetes**

1. Find the latest patch release of kubeadm 1.23 using the OS package manager:

**sudo apt-cache madison kubeadm**

A computer screen capture

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Find the latest 1.23 version in the list. It should look like 1.23.x-00, where x is the latest patch.

If the kubeadm version is 1.23.5 or lower, we are going to upgrade it to 1.23.6 (x=6)

1. Find the latest patch release of kubectl 1.23 using the OS package manager:

**sudo apt-cache madison kubectl**

**Graphical user interface, text, application

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**Step 3: Verifying the current version of Kubernetes**

1. Verify the kubeadm and kubectl versions of the control plane (master):

**kubeadm version**

**kubectl get nodes**

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**Step 4: Upgrading the repositories**

1. Update and upgrade the repositories using the following commands:

**sudo apt update**

**sudo apt upgrade**

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**Step 5: Holding the Kubernetes versions**

1. Use the following commands to hold the kubeadm, kubectl, and kubelet versions:

**sudo apt-mark hold kubeadm**

**sudo apt-mark hold kubelet kubectl**

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**Step 6: Upgrading the control plane**

1. Use the following commands to upgrade the control plane (master):

**sudo apt-get install -y kubeadm=1.23.6-00 --allow-change-held-packages**

**sudo apt-get install -y kubelet=1.23.6-00 kubectl=1.23.6-00 --allow-change-held-packages**

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**Step 7: Verifying the updated version of Kubernetes**

1. Verify the updated version by using the following command:

**kubeadm version**

**kubectl get nodes**

**sudo kubeadm upgrade plan**

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