OC VERSION UPDATE USING CLI

(done to update the TLS version to 1.2)

#CLUSTER HEALTHY STATUS. THESE TWO SHOULD BE HEALTHY

```
oc get nodes
```

```
[root@bastion-test ~]# oc get nodes
NAME                          STATUS   ROLES    AGE   VERSION
master0.amstest01.ncrtc.co.in  Ready    master   69d   v1.23.12+8a6bfe4
master1.amstest01.ncrtc.co.in  Ready    master   69d   v1.23.12+8a6bfe4
master2.amstest01.ncrtc.co.in  Ready    master   69d   v1.23.12+8a6bfe4
worker0.amstest01.ncrtc.co.in  Ready    worker   63d   v1.23.12+8a6bfe4
worker1.amstest01.ncrtc.co.in  Ready    worker   63d   v1.23.12+8a6bfe4
worker2.amstest01.ncrtc.co.in  Ready    worker   63d   v1.23.12+8a6bfe4
```

```
oc get clusteroperators
```

```
[root@bastion-test ~]# oc get clusteroperators
NAME                                        VERSION   AVAILABLE   PROGRESSING   DEGRADED   SINCE   MESSAGE
authentication                              4.10.46   True        False         False      53m
baremetal                                   4.10.46   True        False         False      69d
cloud-controller-manager                    4.10.46   True        False         False      69d
cloud-credential                            4.10.46   True        False         False      69d
cluster-autoscaler                          4.10.46   True        False         False      69d
config-operator                             4.10.46   True        False         False      69d
console                                     4.10.46   True        False         False      53m
csi-snapshot-controller                     4.10.46   True        False         False      13d
dns                                         4.10.46   True        False         False      13d
etcd                                        4.10.46   True        False         False      6d
image-registry                              4.10.46   True        False         False      4d21h
ingress                                     4.10.46   True        False         False      12d
insights                                    4.10.46   True        False         False      63d
kube-apiserver                              4.10.46   True        False         False      69d
kube-controller-manager                     4.10.46   True        False         False      69d
kube-scheduler                              4.10.46   True        False         False      69d
kube-storage-version-migrator               4.10.46   True        False         False      4d22h
machine-api                                 4.10.46   True        False         False      69d
machine-approver                            4.10.46   True        False         False      69d
machine-config                              4.10.46   True        False         False      23h
marketplace                                 4.10.46   True        False         False      69d
monitoring                                  4.10.46   True        False         False      12d
network                                     4.10.46   True        False         False      69d
node-tuning                                 4.10.46   True        False         False      12d
openshift-apiserver                         4.10.46   True        False         False      19h
openshift-controller-manager                4.10.46   True        False         False      9d
openshift-samples                           4.10.46   True        False         False      69d
operator-lifecycle-manager                  4.10.46   True        False         False      69d
operator-lifecycle-manager-catalog          4.10.46   True        False         False      69d
operator-lifecycle-manager-packageserver    4.10.46   True        False         False      3d18h
service-ca                                  4.10.46   True        False         False      69d
storage                                     4.10.46   True        False         False      69d
```

#ETCD BACKUP

```
oc debug node/master0.amstest01.ncrtc.co.in
```

```
sh 4.2:

chroot /host

/usr/local/bin/cluster-backup.sh /home/core/assets/backup
```

==> backup files will be created

Backup saved location in Test Env

```
scp /home/core/assets/backup/snapshot_2023-04-04_200545.db
root@10.48.53.3:/home/core/

scp /home/core/assets/backup/static_kuberesources_2023-04-
04_200545.tar.gz   root@10.48.53.3:/home/core/
```

Backup saved Location in PRD Env

```
scp -v
core@10.48.132.2:/home/core/assets/backup/static_kuberesources_2023-
04-04_235716.tar.gz /home/govadmin/

scp -v core@10.48.132.2:/home/core/assets/backup/snapshot_2023-04-
04_235716.db /home/govadmin/
```

#PAUSE ALL MACHINEHEALTHCHECK RESOURCES

List all health-check resource

```
oc get machinehealthcheck -n openshift-machine-api
```

```
[root@bastion-test ~]# oc get machinehealthcheck -n openshift-machine-api
NAME                                MAXUNHEALTHY    EXPECTEDMACHINES    CURRENTHEALTHY
machine-api-termination-handler     100%
```

```
machine-api-termination-handler
```

To pause the machine health checks, add the cluster.x-k8s.io/paused="" annotation to the MachineHealthCheck resource. Run the following command:

```
oc -n openshift-machine-api annotate mhc machine-api-termination-
handler cluster.x-k8s.io/paused=""
```

If it give error "error: --overwrite is false but found the following declared annotation(s): 'cluster.x-k8s.io/paused' already has a value ()" then add below command

```
oc -n openshift-machine-api annotate mhc machine-api-termination-
handler cluster.x-k8s.io/paused="" --overwrite
```

After apply the change, check annotations in healthcheck yaml

```
apiVersion: machine.openshift.io/v1beta1
kind: MachineHealthCheck
metadata:
  name: example
  namespace: openshift-machine-api
  annotations:
    cluster.x-k8s.io/paused: ""
spec:
  selector:
    matchLabels:
      role: worker
```

#OC UPDATE PROCESS

1. Check present version of cluster

```
oc get clusterversion
```

```
[root@bastion-test ~]# oc get clusterversion
NAME       VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version    4.10.46   True        False         63d     Cluster version is 4.10.46
```

oc -n openshift-config patch cm admin-acks --patch '{"data":{"ack-4.12-kube-1.26-api-removals-in-4.13":"true"}}' --type=merge

2. View the available updates and note the version number of the update that you want to apply:

```
oc adm upgrade
```

```
[root@bastion-test ~]# oc adm upgrade
Cluster version is 4.10.46

Upstream is unset, so the cluster will use an appropriate default.
Channel: stable-4.10 (available channels: candidate-4.10, candidate-4.11, eus-4.10, eus-4.12, fast-4.10, fast-4.11, stable-4.10, stable-4.11)

Recommended updates:

  VERSION    IMAGE
  4.10.54    quay.io/openshift-release-dev/ocp-release@sha256:7e44fa5f6aa15f9492341c4714bba4dc5089c968f2bf77fb8d4cdf189634f8f5
  4.10.53    quay.io/openshift-release-dev/ocp-release@sha256:0f683cf611bd6f2d3ab045b52df0fcda8adefa086e6ee80c5551275e5692cd8c
  4.10.52    quay.io/openshift-release-dev/ocp-release@sha256:b13ee67469f7f85a1b1daf57424f3c7c02c3a188cb640dc6284742091a7e6d50
  4.10.51    quay.io/openshift-release-dev/ocp-release@sha256:d23a3b88ece36f741923552904b730c5452db698c7678cf65181fefb62ea5e2f
  4.10.50    quay.io/openshift-release-dev/ocp-release@sha256:9301ca818d705bda5981db961904f2b6e3f9adcc51e3c8e258c05950236dfc3d
  4.10.47    quay.io/openshift-release-dev/ocp-release@sha256:bb0d33862d3f550474d5c34e6bc379c095337eff9d3c3eac0787a4b9e7140a
```

So, in our case, we Select upgrade version: 4.10.50

3. Set the appropriate upgrade channel.

```
oc adm upgrade channel stable-4.10
```

4. To update to a specific version:

```
oc adm upgrade --to=4.10.50
```

```
[root@bastion-test ~]# oc adm upgrade channel stable-4.10
info: Cluster is already in stable-4.10 (no change)
[root@bastion-test ~]# oc adm upgrade --to=4.10.50
Updating to 4.10.50
```

```
[root@bastion-test ~]# oc adm upgrade --to=4.10.50
Updating to 4.10.50
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        False         64d     Cluster version is 4.10.46
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        True          96s     Working towards 4.10.50: 98 of 773 done (12% complete)
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        True          3m2s    Working towards 4.10.50: 98 of 773 done (12% complete)
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        True          4m40s   Working towards 4.10.50: 98 of 773 done (12% complete)
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        True          6m27s   Working towards 4.10.50: 99 of 773 done (12% complete), waiting on etcd
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        True          29m     Working towards 4.10.50: 633 of 773 done (81% complete), waiting on dns
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.46   True        True          36m     Working towards 4.10.50: 651 of 773 done (84% complete), waiting on machine-config
```

5. Review the status of the Cluster Version Operator:

```
oc adm upgrade
```

6. After the update, you can confirm that the cluster version has updated to the new version:

```
oc get clusterversion
```

```
[root@bastion-test ~]# oc get clusterversion
NAME      VERSION   AVAILABLE   PROGRESSING   SINCE   STATUS
version   4.10.50   True        False         117s    Cluster version is 4.10.50
```

oc get clusteroperators

```
[root@bastion-test ~]# oc get clusteroperators
NAME                                        VERSION   AVAILABLE   PROGRESSING   DEGRADED   SINCE   MESSAGE
authentication                              4.10.50   True        False         False      21m
baremetal                                   4.10.50   True        False         False      69d
cloud-controller-manager                    4.10.50   True        False         False      69d
cloud-credential                            4.10.50   True        False         False      69d
cluster-autoscaler                          4.10.50   True        False         False      69d
config-operator                             4.10.50   True        False         False      69d
console                                     4.10.50   True        False         False      42m
csi-snapshot-controller                     4.10.50   True        False         False      13d
dns                                         4.10.50   True        False         False      13d
etcd                                        4.10.50   True        False         False      6d4h
image-registry                              4.10.50   True        False         False      25m
ingress                                     4.10.50   True        False         False      13d
insights                                    4.10.50   True        False         False      64d
kube-apiserver                              4.10.50   True        False         False      69d
kube-controller-manager                     4.10.50   True        False         False      69d
kube-scheduler                              4.10.50   True        False         False      69d
kube-storage-version-migrator               4.10.50   True        False         False      43m
machine-api                                 4.10.50   True        False         False      69d
machine-approver                            4.10.50   True        False         False      69d
machine-config                              4.10.50   True        False         False      28h
marketplace                                 4.10.50   True        False         False      69d
monitoring                                  4.10.50   True        False         False      13d
network                                     4.10.50   True        False         False      69d
node-tuning                                 4.10.50   True        False         False      65m
openshift-apiserver                         4.10.50   True        False         False      26m
openshift-controller-manager                4.10.50   True        False         False      9d
openshift-samples                           4.10.50   True        False         False      65m
operator-lifecycle-manager                  4.10.50   True        False         False      69d
operator-lifecycle-manager-catalog          4.10.50   True        False         False      69d
operator-lifecycle-manager-packageserver    4.10.50   True        False         False      3d22h
service-ca                                  4.10.50   True        False         False      69d
storage                                     4.10.50   True        False         False      69d
[root@bastion-test ~]#
```

#START ALL MACHINEHEALTHCHECK RESOURCES

Resume the machine health checks after updating the cluster. To resume the check, remove the pause annotation from the `MachineHealthCheck` resource by running the following command:

oc -n openshift-machine-api annotate mhc machine-api-termination-handler cluster.x-k8s.io/paused-

```
[root@bastion-test ~]# oc get machinehealthcheck -n openshift-machine-api
NAME                             MAXUNHEALTHY    EXPECTEDMACHINES    CURRENTHEALTHY
machine-api-termination-handler    100%
[root@bastion-test ~]# oc -n openshift-machine-api annotate mhc machine-api-termination-handler cluster.x-k8s.io/paused-
machinehealthcheck.machine.openshift.io/machine-api-termination-handler annotated
[root@bastion-test ~]#
```