

# Kubernetes Backup / Restore / Maintenance / Upgrade (CKA)

## ETCD Backup & Restore

Backup:

```
ETCDCTL_API=3 etcdctl --endpoints=https://127.0.0.1:2379 \  
--cacert=/etc/kubernetes/pki/etcd/ca.crt \  
--cert=/etc/kubernetes/pki/etcd/server.crt \  
--key=/etc/kubernetes/pki/etcd/server.key \  
snapshot save /var/lib/etcd/snapshot.db
```

Restore:

```
mv /etc/kubernetes/manifests/etcd.yaml /etc/kubernetes/manifests/etcd.yaml.bak  
rm -rf /var/lib/etcd/*  
ETCDCTL_API=3 etcdctl snapshot restore /var/lib/etcd/snapshot.db --data-dir=/var/lib/etcd  
mv /etc/kubernetes/manifests/etcd.yaml.bak /etc/kubernetes/manifests/etcd.yaml
```

Usecase: Exam yêu cầu backup/restore cluster state.

## Resource Backup (YAML)

```
kubectl get all -n myns -o yaml > all.yaml  
kubectl get configmap,secrets,pvc -A -o yaml > config.yaml  
  
kubectl apply -f all.yaml
```

Usecase: Backup/restore resource YAML trong namespace.

## Node Maintenance

```
kubectl drain <node> --ignore-daemonsets --delete-emptydir-data  
kubectl cordon <node>  
kubectl uncordon <node>
```

Usecase: Evict pods an toàn trước khi upgrade node.

## Cluster Upgrade (kubeadm)

Control Plane:

```
kubeadm upgrade plan  
kubeadm upgrade apply v1.28.0
```

```
systemctl daemon-reload && systemctl restart kubelet
```

Worker Node:

```
kubeadm upgrade node
```

```
apt-get install -y kubelet=1.28.x-00 && systemctl restart kubelet
```

Usecase: Exam nâng version cluster.

## Certificate Renewal

```
kubeadm certs check-expiration
```

```
kubeadm certs renew all
```

Usecase: Renew cert API server khi hết hạn.

## Kubeconfig Backup

```
cp /etc/kubernetes/admin.conf ~/admin.conf.backup
```

```
cp ~/admin.conf.backup /etc/kubernetes/admin.conf
```

Usecase: Mất kubeconfig admin, restore lại.

## Image Management

```
kubeadm config images pull
```

Usecase: Kéo image control plane trước khi upgrade.