# Backing up and Restoring Kubernetes Data in etcd

## Introduction

Backups are an important part of any resilient system. Kubernetes is no exception. In this lab, you will have the opportunity to practice your skills by backing up and restoring a Kubernetes cluster state stored in etcd. This will help you get comfortable with the steps involved in backing up Kubernetes data.

## Solution

Log in to the provided lab server using the credentials provided:

ssh cloud\_user@<PUBLIC\_IP\_ADDRESS>

### Back Up the etcd Data

1. Look up the value for the key cluster.name in the etcd cluster:

ETCDCTL\_API=3 etcdctl get cluster.name \

--endpoints=https://10.0.1.101:2379 \

--cacert=/home/cloud\_user/etcd-certs/etcd-ca.pem \

--cert=/home/cloud\_user/etcd-certs/etcd-server.crt \

--key=/home/cloud\_user/etcd-certs/etcd-server.key

The returned value should be beebox.

1. Back up etcd using etcdctl and the provided etcd certificates:

ETCDCTL\_API=3 etcdctl snapshot save /home/cloud\_user/etcd\_backup.db \

--endpoints=https://10.0.1.101:2379 \

--cacert=/home/cloud\_user/etcd-certs/etcd-ca.pem \

--cert=/home/cloud\_user/etcd-certs/etcd-server.crt \

--key=/home/cloud\_user/etcd-certs/etcd-server.key

1. Reset etcd by removing all existing etcd data:

sudo systemctl stop etcd

sudo rm -rf /var/lib/etcd

### Restore the etcd Data from the Backup

1. Restore the etcd data from the backup (this command spins up a temporary etcd cluster, saving the data from the backup file to a new data directory in the same location where the previous data directory was):

sudo ETCDCTL\_API=3 etcdctl snapshot restore /home/cloud\_user/etcd\_backup.db \

--initial-cluster etcd-restore=https://10.0.1.101:2380 \

--initial-advertise-peer-urls https://10.0.1.101:2380 \

--name etcd-restore \

--data-dir /var/lib/etcd

1. Set ownership on the new data directory:

sudo chown -R etcd:etcd /var/lib/etcd

1. Start etcd:

sudo systemctl start etcd

1. Verify the restored data is present by looking up the value for the key cluster.name again:

ETCDCTL\_API=3 etcdctl get cluster.name \

--endpoints=https://10.0.1.101:2379 \

--cacert=/home/cloud\_user/etcd-certs/etcd-ca.pem \

--cert=/home/cloud\_user/etcd-certs/etcd-server.crt \

--key=/home/cloud\_user/etcd-certs/etcd-server.key

The returned value should be beebox.

## Conclusion

Congratulations on successfully completing this hands-on lab!