**Backup and Restore for etcd**

## **Source :** <https://elastisys.com/2018/12/10/backup-kubernetes-how-and-why/>

## **Objectives**

* Backup a single master and worker setup by kubeadm
* Restore a single master and worker setup by kubeadm

1. SH to the Master VM and run the below commands

(Username = devops )

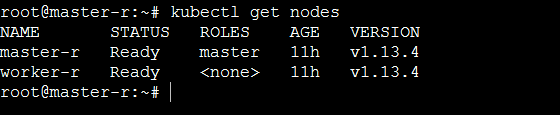
( Password = Dev0p$!!/ )

2. **Backup a single master**

|  |
| --- |
| $ sudo su  # cd |

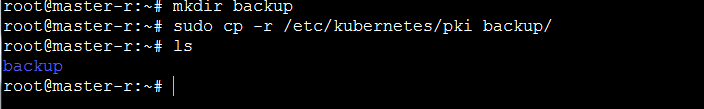
3. Verify Nodes are joined

|  |
| --- |
| # kubectl get nodes |



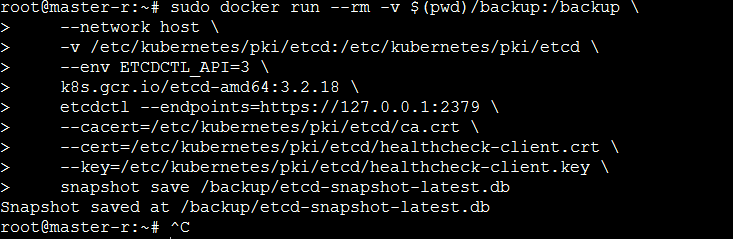
4. Backup certificates

|  |
| --- |
| # mkdir backup # sudo cp -r /etc/kubernetes/pki backup/ # ls |



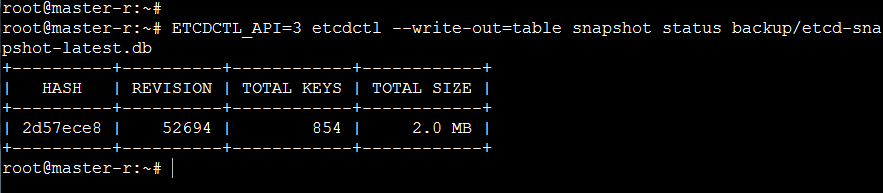
5. Run stack in detach mode and make snap of the etcd database.

|  |
| --- |
| # sudo docker run --rm -v $(pwd)/backup:/backup \  --network host \  -v /etc/kubernetes/pki/etcd:/etc/kubernetes/pki/etcd \  --env ETCDCTL\_API=3 \  k8s.gcr.io/etcd-amd64:3.2.18 \  etcdctl --endpoints=https://127.0.0.1:2379 \  --cacert=/etc/kubernetes/pki/etcd/ca.crt \  --cert=/etc/kubernetes/pki/etcd/healthcheck-client.crt \  --key=/etc/kubernetes/pki/etcd/healthcheck-client.key \  snapshot save /backup/etcd-snapshot-latest.db |



6. Verify the etcd snapshot by running below command..

|  |
| --- |
| # apt install etcd-client  # ETCDCTL\_API=3 etcdctl --write-out=table snapshot status backup/etcd-snapshot-latest.db |



**Backup kubeadm-config**

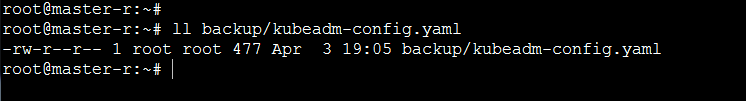
6. View kubeadm-config

|  |
| --- |
| # kubeadm config view |



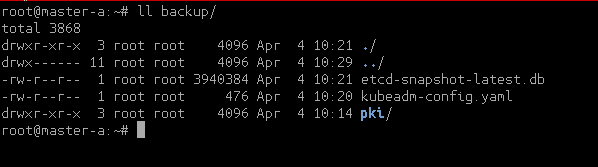
7. Save Kubeadm config in a file and list

|  |
| --- |
| # kubeadm config view > backup/kubeadm-config.yaml # ll backup/kubeadm-config.yaml |



8. List the Backup Directory

|  |
| --- |
| # ll backup/ |

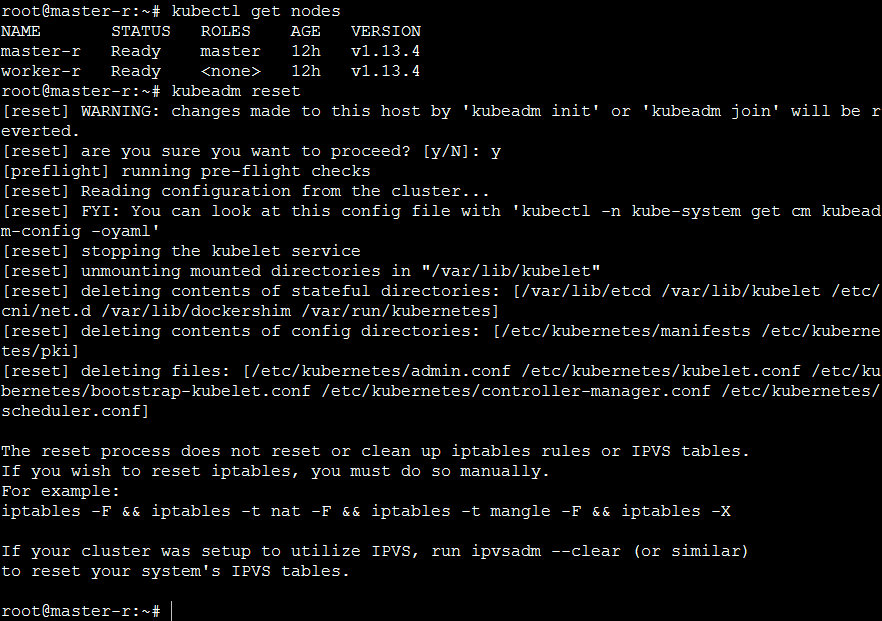


9. Get node status

|  |
| --- |
| # kubectl get nodes |

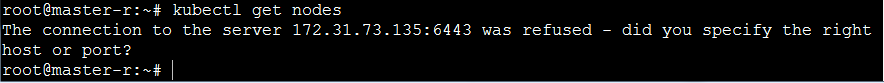
10. Reset kubeadm now

|  |
| --- |
| # kubeadm reset |



11. Get node status again

|  |
| --- |
| # kubectl get nodes |



**Restore a single master and verify**

12. Restore certificates

|  |
| --- |
| # sudo cp -r backup/pki /etc/kubernetes/ |

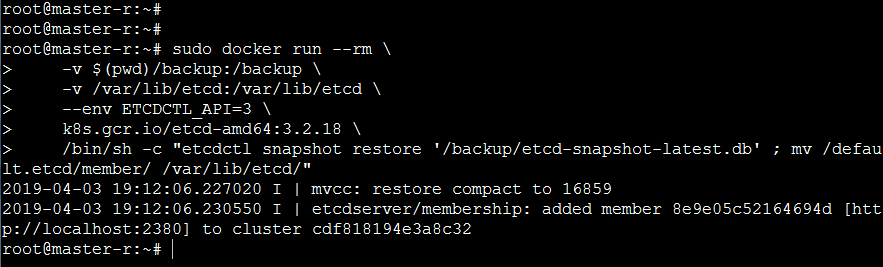
Restore etcd backup

13. Create etcd directory by below command

|  |
| --- |
| # mkdir -p /var/lib/etcd |

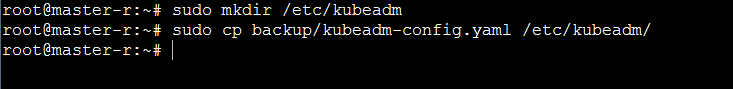
14. Restore etcd db snapshot

|  |
| --- |
| sudo docker run --rm \  -v $(pwd)/backup:/backup \  -v /var/lib/etcd:/var/lib/etcd \  --env ETCDCTL\_API=3 \  k8s.gcr.io/etcd-amd64:3.2.18 \  /bin/sh -c "etcdctl snapshot restore '/backup/etcd-snapshot-latest.db' ; mv /default.etcd/member/ /var/lib/etcd/" |



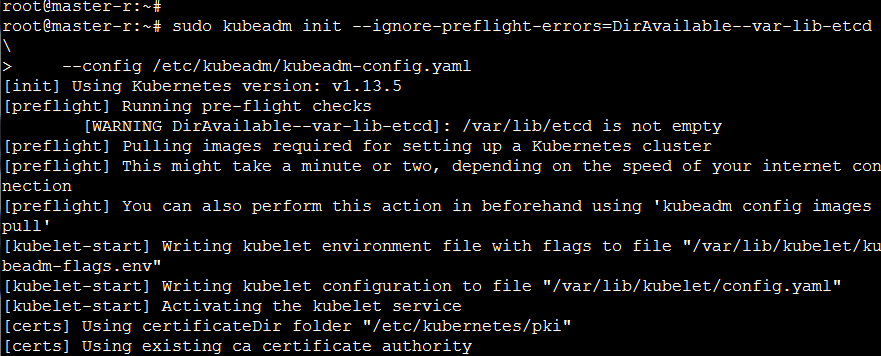
15. Restore kubeadm-config

|  |
| --- |
| # mkdir /etc/kubeadm # sudo cp backup/kubeadm-config.yaml /etc/kubeadm/ |



16. Now Initialize the master with backup

|  |
| --- |
| sudo kubeadm init --ignore-preflight-errors=DirAvailable--var-lib-etcd \  --config /etc/kubeadm/kubeadm-config.yaml |



17. Now Get the Node Status

|  |
| --- |
| # kubectl get nodes |

