<https://gist.github.com/stevenc81/e8d86d68a2aff69b7268938fa1f711fe>

Upgrading KUBERNETES Cluster 1.11.6 to 1.17.6 using KOPS

I0808 23:44:29.560244 4469 instancegroups.go:268] Cluster did not pass validation, will try again in "30s" until duration "15m0s" expires: machine "i-0b6e2bdb3c8032e1f" has not yet joined cluster.

MASTER UPGRADE: kops will delete master first and create the new master machine

NODE UPGRDE: kops will create new node machine with updated k8s version, move the pods,

And delete the node.

https://github.com/kubernetes/kops/issues/7167#issuecomment-504798532

https://github.com/kubernetes/kops/blob/master/docs/releases/1.12-NOTES.md

kops create cluster \

--name steven.k8s.com \

--cloud aws \

--master-size m4.large \

--master-zones=us-east-1b,us-east-1c,us-east-1d \

--node-size m4.xlarge \

--zones=us-east-1a,us-east-1b,us-east-1c,us-east-1d,us-east-1e,us-east-1f \

--node-count=3 \

--kubernetes-version=1.11.6 \

--vpc=vpc-1234567\

--network-cidr=10.0.0.0/16 \

--networking=flannel \

--authorization=RBAC \

--ssh-public-key="~/.ssh/kube\_aws\_rsa.pub" \

--yes

kops create cluster --name=sreek8s.xyz --state=s3://sreek8s --zones=us-east-1a,us-east-1b,us-east-1c,us-east-1d --node-count=3 --node-size=t2.medium --master-size=t2.medium --master-zones=us-east-1a,us-east-1b,us-east-1c --master-volume-size 10 --node-volume-size 10 --dns-zone=sreek8s.xyz --kubernetes-version=1.11.6 --yes

kops create cluster --name=sreek8s.xyz --state=s3://sreek8s --zones=us-east-1a,us-east-1b,us-east-1c,us-east-1d --node-count=3 --node-size=t2.medium --master-size=t2.medium --master-zones=us-east-1a,us-east-1b,us-east-1c --master-volume-size 10 --node-volume-size 10 --dns-zone=sreek8s.xyz --kubernetes-version=1.15.0 --yes

https://gist.github.com/stevenc81/e8d86d68a2aff69b7268938fa1f711fe

kubectl run clusterupgrade --image=sreeharshav/testcontainer:v1 --replicas=3

root@ip-192-168-1-100:~/clusters# ku get deploy

NAME DESIRED CURRENT UP-TO-DATE AVAILABLE AGE

clusterupgrade 3 3 3 3 37s

ku expose deployment clusterupgrade --port=8000 --target-port=80 --type=NodePort

kops edit cluster

kubernetesVersion: 1.17.6

kops update cluster sreek8s.xyz --yes

root@ip-192-168-1-100:~/clusters# kops rolling-update cluster sreek8s.xyz

NAME STATUS NEEDUPDATE READY MIN MAX NODES

master-us-east-1a NeedsUpdate 1 0 1 1 1

master-us-east-1b NeedsUpdate 1 0 1 1 1

master-us-east-1c NeedsUpdate 1 0 1 1 1

nodes NeedsUpdate 3 0 3 3 3

kops rolling-update cluster sreek8s.xyz --yes

root@ip-192-168-1-100:~# kops validate cluster

Using cluster from kubectl context: sreek8s.xyz

Validating cluster sreek8s.xyz

INSTANCE GROUPS

NAME ROLE MACHINETYPE MIN MAX SUBNETS

master-us-east-1a Master t2.medium 1 1 us-east-1a

master-us-east-1b Master t2.medium 1 1 us-east-1b

master-us-east-1c Master t2.medium 1 1 us-east-1c

nodes Node t2.medium 3 3 us-east-1a,us-east-1b,us-east-1c,us-east-1d

NODE STATUS

NAME ROLE READY

ip-172-20-130-225.ec2.internal node True

ip-172-20-50-173.ec2.internal node True

ip-172-20-61-115.ec2.internal master True

ip-172-20-66-96.ec2.internal node True

ip-172-20-93-100.ec2.internal master True

VALIDATION ERRORS

KIND NAME MESSAGE

Machine i-0b6e2bdb3c8032e1f machine "i-0b6e2bdb3c8032e1f" has not yet joined cluster

I0808 23:44:29.560244 4469 instancegroups.go:268] Cluster did not pass validation, will try again in "30s" until duration "15m0s" expires: machine "i-0b6e2bdb3c8032e1f" has not yet joined cluster.

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root@ip-192-168-1-100:~# nodes | grep -i master

ip-172-20-105-148.ec2.internal Ready master 2m56s v1.17.6

ip-172-20-36-121.ec2.internal Ready master 2m53s v1.17.6

ip-172-20-87-177.ec2.internal Ready master 2m49s v1.17.6

root@ip-192-168-1-100:~# nodes | grep -i node

ip-172-20-130-225.ec2.internal Ready node 41m v1.11.6

ip-172-20-50-173.ec2.internal Ready node 41m v1.11.6

ip-172-20-66-96.ec2.internal Ready node 40m v1.11.6

root@ip-192-168-1-100:~# kops rolling-update cluster sreek8s.xyz --yes

NAME STATUS NEEDUPDATE READY MIN MAX NODES

master-us-east-1a Ready 0 1 1 1 1

master-us-east-1b Ready 0 1 1 1 1

master-us-east-1c Ready 0 1 1 1 1

nodes NeedsUpdate 3 0 3 3 3

root@ip-192-168-1-100:~# nodes

NAME STATUS ROLES AGE VERSION

ip-172-20-105-148.ec2.internal Ready master 14m v1.17.6

ip-172-20-136-204.ec2.internal Ready node 8m25s v1.17.6

ip-172-20-36-121.ec2.internal Ready master 14m v1.17.6

ip-172-20-62-103.ec2.internal Ready node 68s v1.17.6

ip-172-20-71-171.ec2.internal Ready node 4m50s v1.17.6

ip-172-20-87-177.ec2.internal Ready master 14m v1.17.6

root@ip-192-168-1-100:~# kops rolling-update cluster sreek8s.xyz --yes

NAME STATUS NEEDUPDATE READY MIN MAX NODES

master-us-east-1a Ready 0 1 1 1 1

master-us-east-1b Ready 0 1 1 1 1

master-us-east-1c Ready 0 1 1 1 1

nodes Ready 0 3 3 3 3