

# Change serviceSubnet in Kubernetes

## Changing the default ip range

```
kubeadm config upload from-flags --service-cidr 172.26.0.0/16
```

in:

```
kubectl -n kube-system edit cm kubeadm-config
```

Also this file:

```
/etc/kubernetes/manifests/kube-apiserver.yaml
```

and this file:

```
/etc/kubernetes/manifests/kube-controller-manager.yaml
```

modified the kubeadm-conf: Adding certSANs:

```
---
apiServer:
  certSANs:
    - 127.0.0.1
    - apiserver.cluster.local
    - 10.103.97.2
    - 172.20.188.117
    - 10.100.0.1
  extraArgs:
    audit-log-format: json
```

Changing networkring:

```
---
local:
  dataDir: /var/lib/etcd
  extraArgs:
    listen-metrics-urls: http://0.0.0.0:2381
imageRepository: sea.hub:5000/k8s.gcr.io
kind: ClusterConfiguration
kubernetesVersion: v1.24.2
networking:
  dnsDomain: cluster.local
  podSubnet: 10.128.0.0/18
  serviceSubnet: 10.100.0.0/22
scheduler:
  extraArgs:
    feature-gates: TTLAfterFinished=true,EphemeralContainers
  extraVolumes:
```

Backup the apiserver cert files:

```
mv /etc/kubernetes/pki/apiserver.{crt,key} /bak
```

Save all svcs and recreate svcs:

```
kubectl get svc --all-namespaces | grep -v -w kubernetes | awk '$4 !~ /None|CLUSTER/{print "kubectl get svc -n \"$1\" \" $2 \" -o yaml && echo ---\"}' | bash | sed '/clusterIP: 10/d' > all_svc.yaml

kubectl get svc --all-namespaces | awk '$4 !~ /None|CLUSTER/{print "kubectl delete svc -n \"$1\" \" $2\"}' | bash

kubectl apply -f all_svc.yaml
```

update the cluster DNS:

```
kubectl get svc -A | grep dns

change entry in
/etc/cni/net.d/calico-kubeconfig
for the intern connecting to kube-api server
<code bash>
server: https://172.30.0.1:443
```

and change init.yml file

networking: serviceSubnet: 172.30.0.0/16 podSubnet: 172.20.0.0/16

```
# change kubelet config kubectl -n kube-system edit cm kubelet-config </code>
```

update the apiserver certs:

```
kubeadm init phase certs apiserver --config=kubeadm.yaml

kubeadm upgrade node phase kubelet-config

systemctl restart kubelet
```

After doing this in all master nodes and rebooting I can see that the services are using 172.26.0.0/16 range.

Probably it will give an error for 172.26.0.1 as this ip is not recognized by the PKI.

In k8s 1.12 it can be fixed using:

```
kubeadm alpha phase certs all --apiserver-advertise-address 0.0.0.0
--apiserver-cert-extra-sans=<leaderip>,<newserviceip>
```

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