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有道笔记地址: <https://note.youdao.com/s/M2z4OzsL>

1. 环境准备

准备三台干净 (未安装过k8s环境) 的虚拟机

```
1 # 所有的主机都要配置主机名和域名映射
2 # 设置主机名
3 hostnamectl set-hostname k8s-master01
4
5 # vim /etc/hosts
6 192.168.65.130 k8s-master01
7 192.168.65.140 k8s-worker01
8 192.168.65.141 k8s-worker02
9 192.168.65.142 k8s-worker03
```

2. 安装sealos

官方文档: <https://sealos.io/zh-Hans/docs/self-hosting/lifecycle-management/quick-start/deploy-kubernetes>

下载地址: <https://github.com/labring/sealos/releases>

```
1 # 安装环境: centos7
2 # 下载sealos
3 wget
  https://github.com/labring/sealos/releases/download/v4.3.2/sealos_4.3.2_linux_amd64.rpm
4
5 #安装sealos
6 yum install sealos_4.3.2_linux_amd64.rpm
7
```

3. 安装kubernetes集群

安装方式一

```
1 # 安装kubernetes集群
2 sealos run labring/kubernetes:v1.27.5 labring/helm:v3.12.3 labring/calico:3.26.1 \
3 --masters 192.168.65.130 \
4 --nodes 192.168.65.140,192.168.65.141,192.168.65.142 -p [your-ssh-passwd]
```

```
[root@k8s-master01 ~]# ./sealos-kubernetes-install.sh
2023-08-25T13:35:15 info Start to create a new cluster: master [192.168.65.130], worker [192.168.65.140 192.168.65.141 192.168.65.142], registry 192.168.65.130
2023-08-25T13:35:15 info Executing pipeline Check in CreateProcessor.
2023-08-25T13:35:15 info checker:hostname [192.168.65.130:22 192.168.65.140:22 192.168.65.141:22 192.168.65.142:22]
2023-08-25T13:35:15 info checker:timeSync [192.168.65.130:22 192.168.65.140:22 192.168.65.141:22 192.168.65.142:22]
2023-08-25T13:35:16 info Executing pipeline PreProcess in CreateProcessor.
```

注意：labring/helm 应当在 labring/calico 之前。

参数说明：

参数名	参数值示例	参数说明
--masters	192.168.0.2	kubernetes master 节点地址列表
--nodes	192.168.0.3	kubernetes node 节点地址列表
--ssh-passwd	[your-ssh-passwd]	ssh 登录密码
kubernetes	labring/kubernetes:v1.25.0	kubernetes 镜像

在干净的服务器上直接执行上面命令，不要做任何多余操作即可启动一个高可用的 kubernetes 集群。
安装成功后输出如下内容：

```
LAST DEPLOYED: Fri Aug 25 13:49:07 2023
NAMESPACE: kube-system
STATUS: deployed
REVISION: 1
TEST SUITE: None
2023-08-25T13:49:17 info succeeded in creating a new cluster, enjoy it!
2023-08-25T13:49:17 info
```



```
Website: https://www.sealos.io/
Address: github.com/labring/sealos
Version: 4.3.2-3d1cbf6c
```

验证k8s是否安装成功

安装方式二

```
1 # 生成配置文件
2 sealos gen labring/kubernetes:v1.27.5 labring/helm:v3.12.3 labring/calico:3.26.1 \
3     labring/cert-manager:v1.12.3 labring/openeks:v3.7.0 \
4 --masters 192.168.65.130 \
5 --nodes 192.168.65.140,192.168.65.141,192.168.65.142 -p root > Clusterfile
6
7 # 执行配置文件
8 sealos apply -f Clusterfile
```

安装其他组件

```
1 sealos run labring/openeks:v3.7.0
2 sealos run labring/cert-manager:v1.12.3
3 sealos run labring/minio-operator:v4.5.5 labring/ingress-nginx:v1.8.1 \
```

增加节点

增加 node 节点:

```
1 $ sealos add --nodes 192.168.65.21,192.168.65.19
```

增加 master 节点:

```
1 $ sealos add --masters 192.168.65.145,192.168.65.146
```

```
[root@k8s-master01 ~]# sealos add --masters 192.168.65.131:22
2023-08-25T15:07:31 info start to scale this cluster
2023-08-25T15:07:31 info Executing pipeline JoinCheck in ScaleProcessor.
2023-08-25T15:07:31 info Warning: Using an even number of master nodes is a risky operation and can lead to reduced high
potential resource wastage. It is strongly recommended to use an odd number of master nodes for optimal cluster stability.
Do you want to proceed?
Yes [y/yes], No [n/no]: y
2023-08-25T15:07:34 info Executing pipeline PreProcess in ScaleProcessor.
2023-08-25T15:07:36 info Executing pipeline PreProcessImage in ScaleProcessor.
2023-08-25T15:07:36 info Executing pipeline RunConfig in ScaleProcessor.
2023-08-25T15:07:36 info Executing pipeline MountRootfs in ScaleProcessor.
1/11 copying files to 192.168.65.131:22 60% [192.168.65.131:22] 1/3/5 15 it/(min) [11c7e1]
```

删除节点

删除 node 节点:

```
1 $ sealos delete --nodes 192.168.65.21,192.168.65.19
```

删除 master 节点:

```
1 $ sealos delete --masters 192.168.65.145,192.168.65.146
```

```
[root@k8s-master01 nacos]# sealos delete --masters 192.168.65.131:22,192.168.65.132:22
2023-09-21T14:08:27 info are you sure to delete these nodes?
Yes [y/yes], No [n/no]: yes
2023-09-21T14:08:32 info start to scale this cluster
2023-09-21T14:08:32 info Executing pipeline DeleteCheck in ScaleProcessor.
2023-09-21T14:08:32 info checker:hostname [192.168.65.130:22]
2023-09-21T14:08:32 info checker:timeSync [192.168.65.130:22]
2023-09-21T14:08:32 info Executing pipeline PreProcess in ScaleProcessor.
2023-09-21T14:08:32 info Executing pipeline Delete in ScaleProcessor.
2023-09-21T14:08:32 info master [192.168.65.131:22 192.168.65.132:22] will be deleted
2023-09-21T14:08:32 info start to delete master 192.168.65.132:22
```

清理集群

```
1 $ sealos reset
```