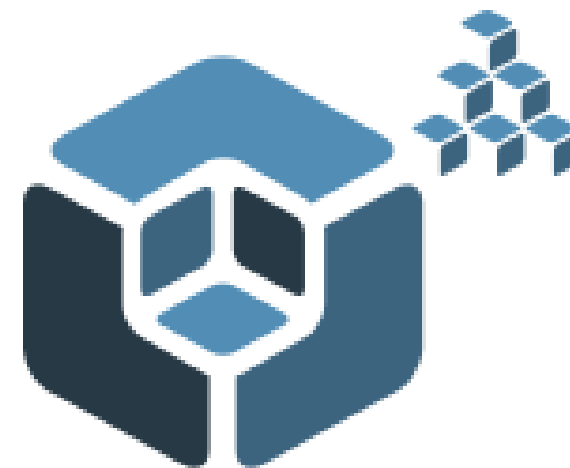СЛЁРМ

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Southbridge

# Kubespray

# Kubespray

Нерешенные проблемы при переходе на установку через kubeadm

- нет возможности апгрейда кластера, установленного классическим способом

- сертификаты выписаны на 1 год, обновлять надо вручную

# Kubespray



https://github.com/kubernetes-sigs/kubespray


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https://github.com/centosadmin/kubespray

# Подготовка серверов

Master – 2 ядра, 4Gb RAM
Ingress – 1 ядро, 2 Gb RAM
Node – 2-4 ядра, 4-8 Gb RAM

Kernel 4.x
Disable swap
Disable firewalld
Локальная сеть между серверами

# Установка

```
git clone https://github.com/centosadmin/kubespray

cd kubespray

pip install -r requirements.txt

yum install -y sshpass
```

# Инвентарь

```
master-1.s000.slurm.io ansible_host=172.21.0.2 ip=172.21.0.2
master-2….
[kube-master]
master-1.s000.slurm.io
master-2.s000.slurm.io
…
[etcd]
master-1.s000.slurm.io
…
[kube-node]
node-1.s000.slurm.io
ingress-1.s000.slurm.io
…
[kube-ingress]
ingress-1.s000.slurm.io

[k8s-cluster:children]
kube-node
kube-master
```
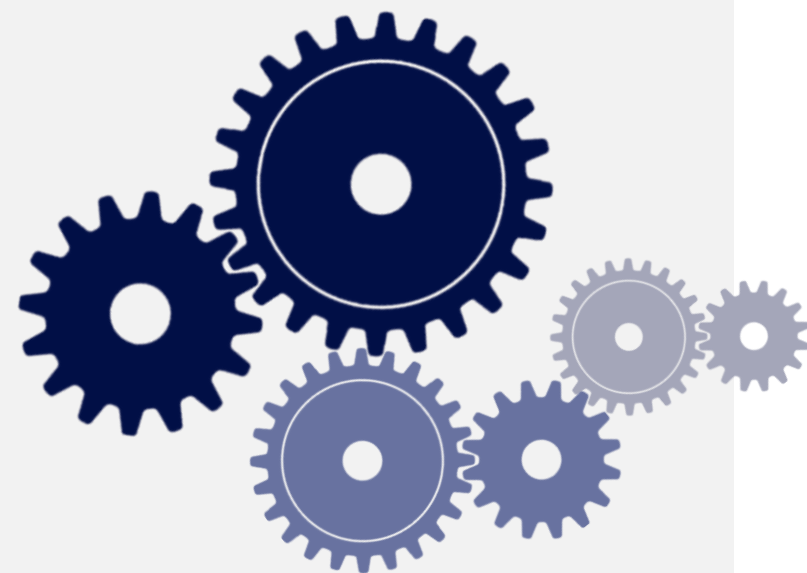
# Group_vars/all

```
group_vars/all/all.yml
kubelet_load_modules: true
kubeadm_enabled: false
skip_non_kubeadm_warning: true
kube_read_only_port: 10255

group_vars/all/docker.yml
docker_storage_options: -s overlay2


group_vars/etcd.yml
etcd_snapshot_count: "5000"
etcd_ionice: "-c2 -n0"
etcd_memory_limit: 0
```

# Group_vars/k8s-cluster

```
group_vars/k8s-cluster/k8s-cluster.yml
kube_version: v1.14.0
kube_oidc_auth: false
kube_basic_auth: false
kube_network_plugin: flannel
kube_service_addresses: 10.100.0.0/16
kube_pods_subnet: 10.0.0.0/16
kube_apiserver_insecure_port: 0
kube_proxy_mode: iptables
cluster_name: s000.local

kubeconfig_localhost: true
kubectl_localhost: true
kubelet_authentication_token_webhook: true
kubelet_authorization_mode_webhook: true

group_vars/k8s-cluster/k8s-net-flannel.yml
flannel_backend_type: "host-gw"
flannel_interface_regexp: '172\\.21\\.0\\.\\d{1,3}'
```

# Addons

```
group_vars/k8s-cluster/addons.yml
ingress_nginx_enabled: true
ingress_nginx_host_network: true
ingress_nginx_configmap:
    server-tokens: "False"
    proxy-body-size: "2048M"
    proxy-buffer-size: "16k"
    worker-shutdown-timeout: "180"
ingress_nginx_nodeselector:
  node-role.kubernetes.io/ingress: "true"
ingress_nginx_tolerations:
  - key: "node-role.kubernetes.io/ingress"
    operator: "Exists"

group_vars/kube-ingress.yml
node_labels:
  node-role.kubernetes.io/ingress: "true"
node_taints:
  - "node-role.kubernetes.io/ingress=:NoSchedule"
```

# Развертывание кластера

```
ansible-playbook -u student000 \
  -k -i inventory/slurm/hosts.ini \
  -b --diff \
cluster.yml
```

# Доработка напильником

```
kubectl label node ingress-1.s000.slurm.io  \
    node-role.kubernetes.io/node-

kubectl completion bash > \
    ~/.kube/completion.bash.inc

printf "
source '$HOME/.kube/completion.bash.inc'
  " >> $HOME/.bash_profile

source $HOME/.bash_profile
```