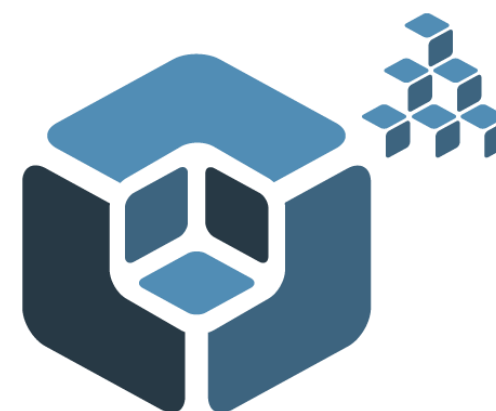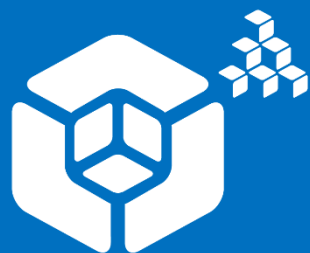# Kubespray

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Kubespray

Некоторые проблемы при переходе на установку через kubeadm

- нет возможности апгрейда кластера, установленного "старым" способом

- сертификаты выписаны на 1 год, обновляются по крону

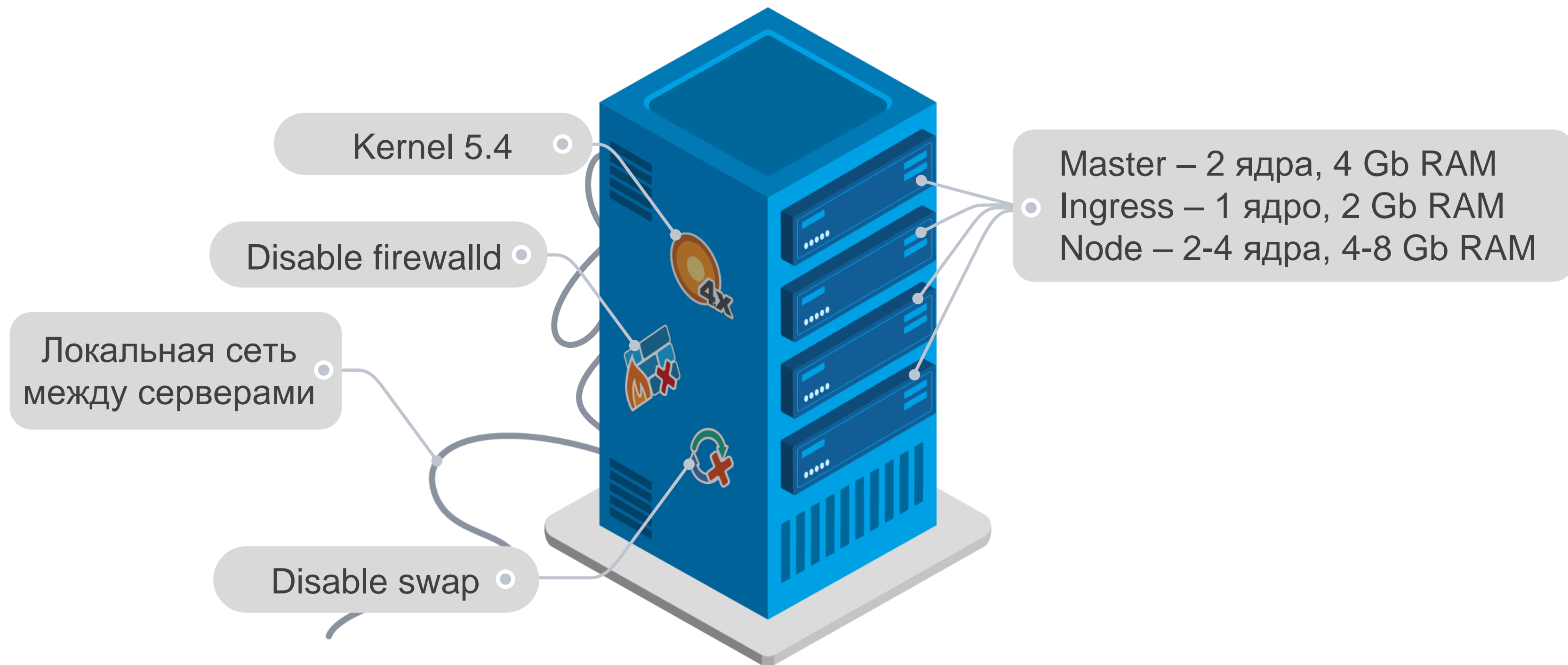- если установка остановилась по ошибке, повторный запуск не всегда может помочь

Kubespray

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

Southbridge

https://github.com/southbridgeio/kubespray

Подготовка серверов

Kernel 5.4

Disable firewalld

Локальная сеть между серверами

Disable swap

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

СЛЁРМ Kubernetes Базовый

slurm.io

Установка

```
ssh master-1.s<номер студента>

sudo -i

cd ~
git clone git@gitlab.slurm.io:slurm/slurm.git
git clone https://github.com/kubernetes-sigs/kubespray

cd kubespray
pip3 install -r requirements.txt

cd ~/slurm/practice/3.kubespray/inventory
```
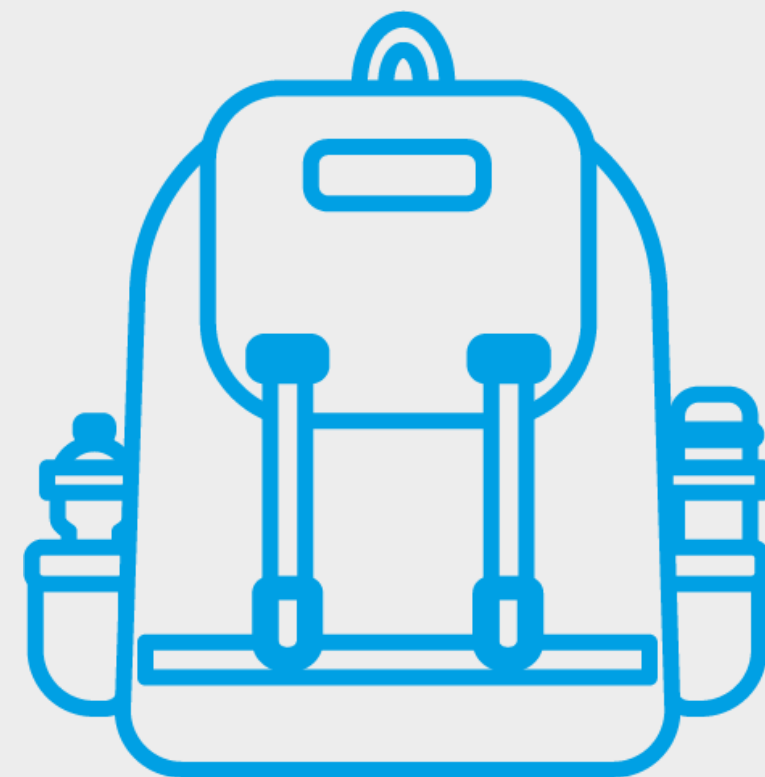
Инвентарь

```
master-1.s000000.slurm.io ansible_host=172.21.0.2 ip=172.21.0.2
master-2….
[kube-master]
master-1.s000000.slurm.io
master-2.s000000.slurm.io
…
[etcd]
master-1.s000000.slurm.io
…
[kube-node]
node-1.s000000.slurm.io
ingress-1.s000000.slurm.io
…
[kube-ingress]
ingress-1.s000000.slurm.io

[k8s-cluster:children]
kube-node
kube-master
```

Group_vars/all

```
group_vars/all/all.yml
etcd_kubeadm_enabled: true

group_vars/all/containerd.yml
containerd_registries:
  "docker.io":
    - "http://172.20.100.52:5000"
    - "https://mirror.gcr.io"
    - "https://registry-1.docker.io"

group_vars/all/download.yml
download_run_once: true
```

Group_vars/k8s-cluster

```yaml
group_vars/k8s-cluster/k8s-cluster.yml
kube_version: v1.21.2
container_manager: containerd

kube_network_plugin: flannel
kube_service_addresses: 10.100.0.0/16
kube_pods_subnet: 10.0.0.0/16
kube_proxy_mode: ipvs
cluster_name: s000000.local

kubeconfig_localhost: true
kubectl_localhost: true

event_ttl_duration: "2h0m0s"
auto_renew_certificates: true

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

Addons

```yaml
group_vars/k8s-cluster/addons.yml
metrics_server_enabled: true

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: ""
ingress_nginx_tolerations:
  - key: "node-role.kubernetes.io/ingress"
    operator: "Exists"

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

Развёртывание кластера

```
ansible-playbook -u s000000
   -i inventory/inventory.ini
   -b --diff
   ~/kubespray/cluster.yml

ИЛИ


sh _deploy_cluster.sh s000000
```
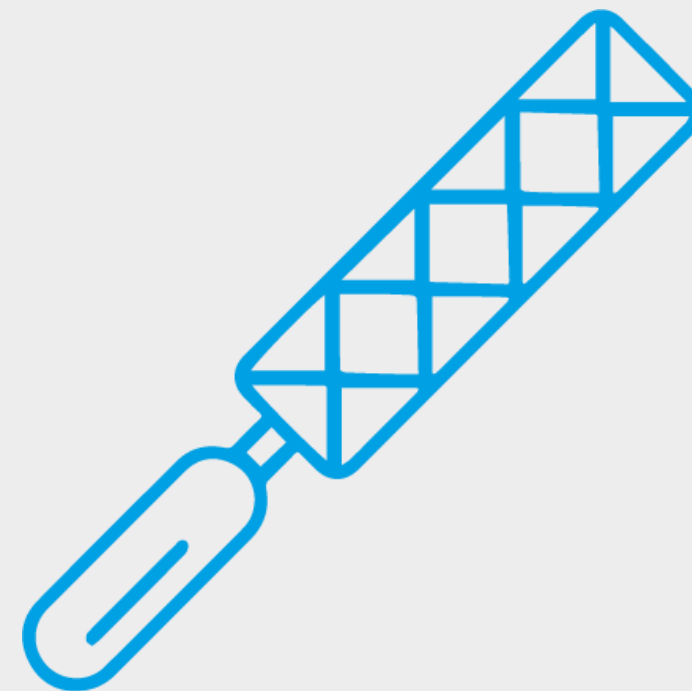
Доработка напильником

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

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


source $HOME/.bash_profile


ИЛИ


yum install k8sh
```
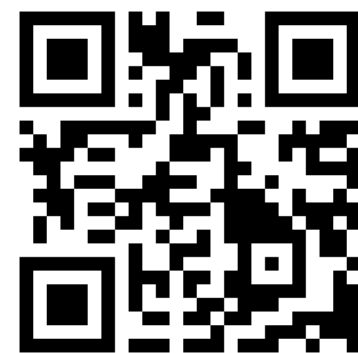
Спасибо!

slurm.io

southbridge.io