

# Création d'un cluster k3s mono-noeud sur Rocky Linux

## Mise en place des pré-requis

### Désactiver firewalld

```
systemctl stop firewalld
systemctl disable firewalld
```

### Désactiver selinux en modifiant le fichier `/etc/sysconfig/selinux`

```
# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#   enforcing - SELinux security policy is enforced.
#   permissive - SELinux prints warnings instead of enforcing.
#   disabled - No SELinux policy is loaded.
# See also:
# https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9/html/using_selinux/changing-selinux-states-and-modes_using-selinux#changing-selinux-modes-at-boot-time_changing-selinux-states-and-modes
#
# NOTE: Up to RHEL 8 release included, SELINUX=disabled would also
# fully disable SELinux during boot. If you need a system with SELinux
# fully disabled instead of SELinux running with no policy loaded, you
# need to pass selinux=0 to the kernel command line. You can use grubby
# to persistently set the bootloader to boot with selinux=0:
#
#   grubby --update-kernel ALL --args selinux=0
#
# To revert back to SELinux enabled:
#
#   grubby --update-kernel ALL --remove-args selinux
#
SELINUX=disabled
# SELINUXTYPE= can take one of these three values:
#   targeted - Targeted processes are protected,
```

```
# minimum - Modification of targeted policy. Only selected processes are protected.
# mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

## Installer les packages manquants suivants

```
dnf install -y git tar bash-completion
```

## Modifier les paramètres kernel suivants en créant le fichier `/etc/sysctl.d/99-tunning.conf`

```
#Disable IP V6
net.ipv6.conf.all.disable_ipv6 = 1
net.ipv6.conf.default.disable_ipv6 = 1

#tunning fs
fs.aio-max-nr = 1048576
fs.file-max = 6815744

#Limit Swap
vm.swappiness = 10

vm.max_map_count = 262144
vm.overcommit_memory = 1

net.core.somaxconn=65535

#Tuning IPV4
net.ipv4.ip_local_port_range = 10000 65500
net.ipv4.tcp_keepalive_time=30
net.ipv4.tcp_keepalive_intvl=30
net.ipv4.tcp_keepalive_probes=10
```

## Rebooter le server

# Installation de kubectl et d'un kube k3s

## Installation de kubectl

Télécharger le binaire kubectl et le déposer dans `/usr/local/bin/`

```
curl -LO https://dl.k8s.io/release/$(curl -Ls https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl
chmod +x ./kubectl
sudo mv ./kubectl /usr/local/bin/kubectl
```

## Modifier le `bashrc` pour ajouter `/usr/local/bin` dans la variable `$PATH`

```
...
...
export PATH=$PATH:/usr/local/bin
...
```

## Ajouter la completion sur `kubectl`

```
echo 'source <(kubectl completion bash)' >> ~/.bashrc
```

## Vérifier que le binaire est opérationnel

```
kubectl version --client
```

## Installation de K3S sans le composant “Traeffik” et en choisissant un CIDR qui n'overlap pas un réseau existant

```
curl -sfL https://get.k3s.io | K3S_KUBECONFIG_MODE="644" INSTALL_K3S_EXEC="--cluster-cidr=192.168.255.0/24 --disable=traefik" sh -
```

## A la fin du déploiement, créer le fichier d'authentification / connection au cluster kubernetes pour le client `kubectl`

```
mkdir ~/.kube
cp /etc/rancher/k3s/k3s.yaml ~/.kube/config
```

## Vérifier que le kube est correctement démarrer

```
kubectl get pods --all-namespaces
```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
kube-system	coredns-0587-fbcd5-sdfs	1/1	Running	0	84s
kube-system	local-path-provisioner-fdsfs-r6pbm	1/1	Running	0	84s

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