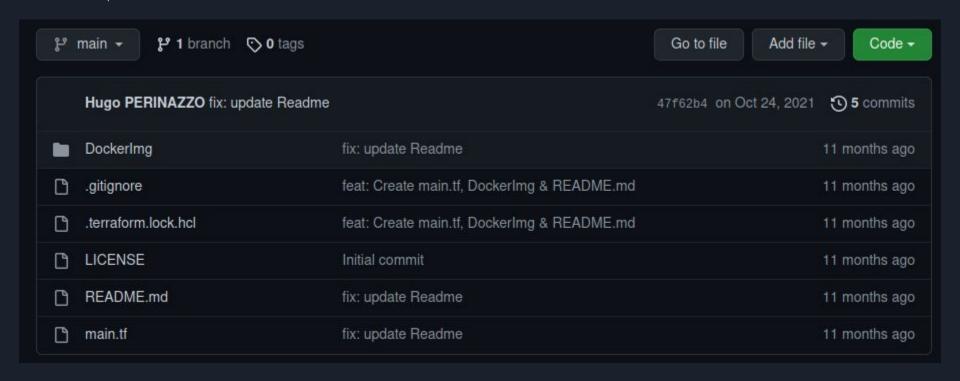
TerraformKind







https://github.com/Yunor743/TerraformKind



<u>Disable the swap and clone the repository:</u>

sudo swapoff -a;

git clone https://github.com/Yunor743/TerraformKind.git;

cd TerraformKind;

Create the infrastructure:

terraform init

terraform apply

```
Warning: Deprecated attribute

on main.tf line 33, in resource "docker_container" "kube-master":
33: image = docker_image.k8snode_latest

The attribute "latest" is deprecated. Refer to the provider documentation for details.

(and 5 more similar warnings elsewhere)

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.
talion@puluton Terraformkind (main)> docker ps -a

CONTAINER ID IMAGE COMMAND CREATED STATUS
PORTS
e4d54a256e61 f128c238f09e "/sbin/init" 58 seconds ago Up 56 seconds
9370f923-2906 f128c238f09e "/sbin/init" 58 seconds ago Up 56 seconds
9151b7aadd0a f128c238f09e "/sbin/init" 58 seconds ago Up 56 seconds
```

kube-worker-2 kube-worker-1 kube-master

For each terraformkind-k8snode container, install a Container Network Interface (CNI):

docker exec -it [container name] bash

mkdir -p /run/flannel && cp /root/subnet.env /run/flannel/

(If one of your nodes reboot you have to re-enter this command)



```
talion@pluton TerraformKind (main)> docker exec -it kube-worker-1 sh
# mkdir -p /run/flannel && cp /root/subnet.env /run/flannel/
#
# ls /run/flannel
subnet.env
#
```

https://github.com/flannel-io/flannel

<u>Init control-plane on the master node:</u>

docker exec -it kube-master bash

kubeadm init --ignore-preflight-errors=all --pod-network-cidr=10.244.0.0/16

Your Kubernetes control-plane has initialized successfully!

To start using your cluster, you need to run the following as a regular user:

mkdir -p \$HOME/.kube
sudo cp -i /etc/kubernetes/admin.conf \$HOME/.kube/config
sudo chown \$(id -u):\$(id -g) \$HOME/.kube/config

You should now deploy a pod network to the cluster.
Run "kubectl apply -f [podnetwork].yam" with one of the options listed at:
https://kubernetes.io/docs/concepts/cluster-administration/addons/

Then you can join any number of worker nodes by running the following on each as root:
kubeadm join 192.168.0.1:6443 --token xi9p3n.3xbhvk39xdc9hwdn \
--discovery-token-ca-cert-hash sha256:6201ba364bd3dfb74367c4400c7fef857144c7f801fc81d1569746c3e6fcbc42
root@kube-master:/#

Use this command to join workers node to the master

You can retrieve a new token with: kubeadm token create --print-join-command

Learn more about control-plane:

https://en.wikipedia.org/wiki/Control plane

Join workers to the cluster,

For each worker enter the following command:

kubeadm --ignore-preflight-errors=all join <IP>:6443 --token <TOKEN> --discovery-token-ca-cert-hash sha256:<CA-HASH>

Note that the flag -ignore-preflight-errors=all has been added to the command given

Copy the master configuration to you host (or another machine)

mkdir -p \$HOME/.kube

docker cp kube-master:/etc/kubernetes/admin.conf \$HOME/.kube/config

Add the flannel CNI plugin to your host machine kubectl

 $kubectl\ apply\ -f\ https://raw.githubusercontent.com/coreos/flannel/master/Documentation/kube-flannel.yml$

Your cluster is ready!

You now have a cluster composed of one master and two workers!

```
talion@pluton TerraformKind (main) [1]> kubectl get node
NAME
                STATUS
                          ROLES
                                    AGE
                                            VERSION
                                           v1.19.16
kube-master
               NotReady
                          master
                                    7m35s
kube-worker-1
               NotReady
                                    6m55s
                                           v1.19.16
                          <none>
                                           v1.19.16
kube-worker-2
                NotReady
                          <none>
                                    6m30s
talion@pluton TerraformKind (main)> kubectl get node
NAME
                STATUS
                        ROLES
                                  AGE
                                          VERSION
kube-master
               Ready
                        master
                                 8m13s
                                          v1.19.16
kube-worker-1
               Ready
                                  7m33s
                                          v1.19.16
                        <none>
kube-worker-2
               Ready
                        <none>
                                  7m8s
                                          v1.19.16
talion@pluton TerraformKind (main)>
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```

TerraformKind





