

miniKube enhanced usage

0. Assumptions:

..that you have installed [minikube](#) successfully..

..that your hardware (pc) can handle multiple vms..

[Installing minikube](#)

1. Stopping & Starting minikube

1.1 Stopping

..stopping the service leaves the nodes in semi active mode for restarting @ some time in the future..

[Command opts other than --all](#)

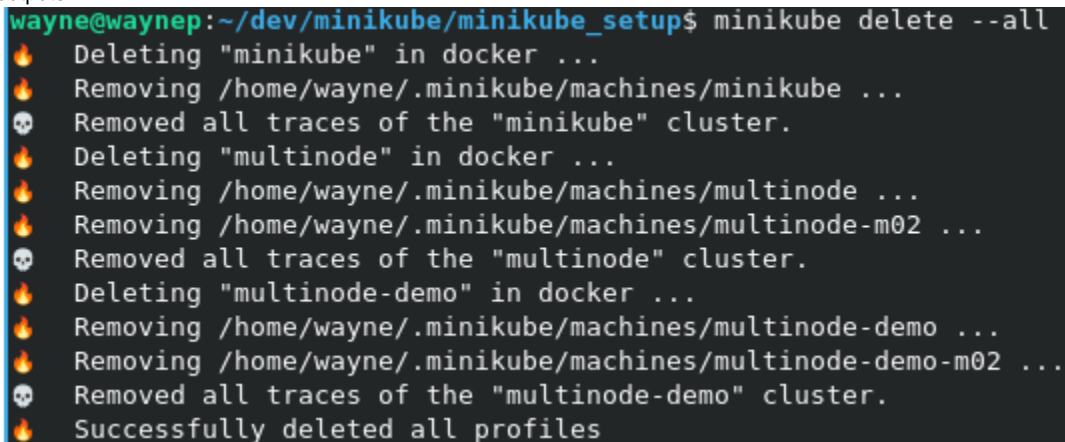
```
minikube stop --all
```

1.2 Deleting to restart completely

..this is the most common thing to do since we use this in "LAB" mode...

```
minikube delete [opts]
opts
--all -> will delete all you nodes & profiles
--purge -> will delete the .minikube folder in {home}
```

..outputs..



```
wayne@waynep:~/dev/minikube/minikube_setup$ minikube delete --all
Deleting "minikube" in docker ...
Removing /home/wayne/.minikube/machines/minikube ...
Removed all traces of the "minikube" cluster.
Deleting "multinode" in docker ...
Removing /home/wayne/.minikube/machines/multinode ...
Removing /home/wayne/.minikube/machines/multinode-m02 ...
Removed all traces of the "multinode" cluster.
Deleting "multinode-demo" in docker ...
Removing /home/wayne/.minikube/machines/multinode-demo ...
Removing /home/wayne/.minikube/machines/multinode-demo-m02 ...
Removed all traces of the "multinode-demo" cluster.
Successfully deleted all profiles
```

..validate deletion with :: (assumes [--all](#) opt)

```
kubectl get services
->The connection to the server localhost:8080 was refused..
```

1.3 Starting up a cluster

```
minikube start
```

..outputs..

```
🐳 minikube v1.23.2 on Ubuntu 20.04
🔊 Automatically selected the docker driver. Other choices are docker-machine, kvm, qemu, hyperv, and virtualbox.
👍 Starting control plane node minikube in cluster minikube
🔧 Pulling base image ...
🔥 Creating docker container (CPUs=2, Memory=3800MB) ...
```

.. if you have has errors in the previous session of minikube you may need to define a startup a bit more with:

```
minikube delete --profile=minikube
minikube start --profile minikube
```

(assuming you have not used other profile names)

```
🔥 Deleting "minikube" in docker ...
🔥 Deleting container "minikube" ...
🔥 Removing /home/wayne/.minikube/machines/minikube ...
💀 Removed all traces of the "minikube" cluster.
```

1.4 Adding nodes

```
minikube node add --worker
Other opts:
--control-plane      -> Usually one is enough
--delete-on-failure  -> May be hardware dependant.
```

.. outputs - with validation command ()..

```
wayne@wayne:~/dev/minikube/minikube_setup$ minikube node add --worker
🐳 Adding node m02 to cluster minikube
! Cluster was created without any CNI, adding a node to it might cause broken network
E1019 12:21:13.330138 363017 register.go:141] unexpected first step: ""
👍 Starting node minikube-m02 in cluster minikube
E1019 12:21:13.330940 363017 register.go:141] unexpected first step: ""
🔧 Pulling base image ...
E1019 12:21:13.389866 363017 register.go:141] unexpected first step: ""
🔥 Creating docker container (CPUs=2, Memory=2200MB) ...- E1019 12:21:20.868243 363017
🔧 Preparing Kubernetes v1.22.2 on Docker 20.10.8 ...| E1019 12:21:27.527734 363017
🔧 Verifying Kubernetes components...
👍 Successfully added m02 to minikube!
wayne@wayne:~/dev/minikube/minikube_setup$ kubectl get nodes -o wide
NAME           STATUS    ROLES                  AGE     VERSION   INTERNAL-IP   EXTERNAL-IP
minikube       Ready     control-plane,master   15m     v1.22.2   192.168.49.2   <none>
minikube-m02   Ready     <none>                 31s     v1.22.2   192.168.49.3   <none>
```

Note: I am able to start 4 nodes without significant issues on my laptop..

```

wayne@wayne:~/dev/minikube/minikube_setup$ kubectl get nodes -o wide
NAME          STATUS    ROLES          AGE      VERSION    INTERNAL-IP    EXTERNAL-IP   OS-IMAGE             KERNEL-VERSION    CONTAINER-RUNTIME
minikube      Ready     control-plane,master  18m     v1.22.2    192.168.49.2    <none>        Ubuntu 20.04.2 LTS   5.11.0-37-generic  docker://20.10.8
minikube-m02  Ready     <none>          3m17s   v1.22.2    192.168.49.3    <none>        Ubuntu 20.04.2 LTS   5.11.0-37-generic  docker://20.10.8
minikube-m03  Ready     <none>          28s     v1.22.2    192.168.49.4    <none>        Ubuntu 20.04.2 LTS   5.11.0-37-generic  docker://20.10.8
minikube-m04  Ready     <none>          10s     v1.22.2    192.168.49.5    <none>        Ubuntu 20.04.2 LTS   5.11.0-37-generic  docker://20.10.8

```

..also can be verified using ..

```
minikube status
```

..outputs..

```

wayne@wayne:~/dev/minikube/minikube_setup$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

minikube-m02
type: Worker
host: Running
kubelet: Running

minikube-m03
type: Worker
host: Running
kubelet: Running

minikube-m04
type: Worker
host: Running
kubelet: Running

```

2. Install some observability tools

I use the standard **k8s dashboard** and **lens**

2.1 Installing Lens

[Installation guide](#)

2.2 Accessing the K8s dashboard in minikube

..the following command will launch the K8s default dashboard and proxy it to port 39181 (in my case)..

.. it will also activate in in your default browser..

```
minikube dashboard
```

..outputs..

```
wayne@waynep:~/dev/minikube/minikube_setup$ minikube dashboard
🔧 Enabling dashboard ...
  ▪ Using image kubernetesui/dashboard:v2.3.1
  ▪ Using image kubernetesui/metrics-scraper:v1.0.7
😓 Verifying dashboard health ...
🚀 Launching proxy ...
😓 Verifying proxy health ...
█
```