minikube Local Kubernetes

CONCEPTS

minikube runs a single-node cluster on your machine. With the docker driver the node is a container; with VM drivers it is a virtual machine.

Your machine minikube CLI + kubectl
- **Driver** docker, podman, kvm2, virtualbox
  - **minikube node** container or VM
    - **Kubernetes** control plane, pods

Every cluster is a profile (default: minikube). Pass -p <name> to any command to target another one.

Services of type LoadBalancer stay pending until minikube tunnel is running in a separate terminal.

CLUSTER LIFECYCLE

minikube start
Create the cluster or start a stopped one

minikube stop
Stop the cluster, keep its state

minikube delete
Delete the cluster

minikube status
Show host, kubelet and API server state

START OPTIONS

minikube start --driver *<driver>*
Choose docker, podman, kvm2 or another

minikube start --cpus *<n>* **--memory** *<size>*
Size the node

minikube start --kubernetes-version *<vX.Y.Z>*
Pin the Kubernetes version

minikube config set driver *<driver>*
Make a driver the default

PROFILES AND NODES

minikube start -p *<name>*
Create or start a named cluster

minikube profile list
List clusters and their status

ADDONS

minikube addons list
Show all addons and their state

minikube addons enable *<addon>*
Turn an addon on

REACHING SERVICES

minikube service *<name>*
Open a service in the browser

minikube service *<name>* **--url**
Print the URL only

minikube tunnel
Give LoadBalancer services an IP

minikube dashboard
Open the Kubernetes dashboard

IMAGES

minikube image load *<image>*
Copy a local image into the cluster

eval $(minikube docker-env)
Point docker at the node's engine

Images with the :latest tag trigger a pull. Use a versioned tag or imagePullPolicy: IfNotPresent for local images.

ACCESS AND DEBUGGING

minikube kubectl -- *<args>*
Run kubectl matching the cluster

minikube ssh
Open a shell on the node

minikube logs
Show cluster logs for debugging