Minikube and Docker environment setup

Friday, 9 June 2023 7:56 am

Minikube contains 2 nodes: master & worker

Master: is also called as "Control Plane" which consists of a) Controller b) Scheduler c) API server d) etcd (key value store)

1. EC2 instance: select Ubuntu t2-medium with 2 CPUs (for master & worker nodes)
2. Ssh into EC2 (powershell, git bash or Vs code)
3. From https://minikube.sigs.k8s.io/docs/start/ copy
   curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
   sudo install minikube-linux-amd64 /usr/local/bin/minikube

4. Paste this into the terminal (to install minikube)
5. Minikube start (to start minikube)
6. Error: driver not detected
7. To solve this enter: minikube start --driver=docker
8. Error: docker not found (Kubernetes runs docker images inside it. Also kubernetes needs docker to run itself from outside). So docker needs to be installed
9. Solution: goto <https://docs.docker.com/engine/install/ubuntu/>
10. Copy and paste into terminal
    sudo apt-get update
    $ sudo apt-get install ca-certificates curl gnupg

sudo install -m 0755 -d /etc/apt/keyrings
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg
sudo chmod a+r /etc/apt/keyrings/docker.gpg

echo \
 "deb [arch="$(dpkg --print-architecture)" signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
 "$(. /etc/os-release && echo "$VERSION_CODENAME")" stable" | \
 sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

sudo apt-get update
sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

11. Rerun the command
    Minikube start --driver=docker

12. Error: Permission required to start minikube
    Solution: sudo usermod -aG docker $USER && newgrp docker

13. Rerun the command
    Minikube start --driver=docker

15. To run kubectl, use command
    kubectl get po -A

16. Error: kubectl not found
    Solution:
    sudo snap install kubectl
    sudo snap install kubectl --classic

17. Rerun the command
    kubectl get po -A

    This will finally install and run kubectl