Lab Exercise 7- Install Minikube on Linux (Ubuntu /MacOS/Windows)

Install Minikube on Linux (Ubuntu)

```
sudo apt install -y docker.io # Ubuntu

sudo systemctl start docker

sudo systemctl enable docker

sudo usermod -aG docker $USER

newgrp docker
```

Step 2: Install kubectl

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/$(curl -s

https://storage.googleapis.com/kubernetes-release/release/stable.txt)/bin/linux/amd64/kubectl

chmod +x kubectl

sudo mv kubectl /usr/local/bin/
```

Verify:

```
kubectl version --client
```

Step 3: Install Minikube

```
curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64

chmod +x minikube-linux-amd64

sudo mv minikube-linux-amd64 /usr/local/bin/minikube
```

Verify:

```
minikube version
```

Step 4: Start Minikube

```
minikube start --driver=docker
```

Check Status:

```
minikube status
```

Install Minikube on Windows

Prerequisites

- Docker Desktop installed
- Enable WSL2

Install Minikube

```
choco install minikube -y
```

OR download exe:

```
https://github.com/kubernetes/minikube/releases/latest
```

Start:

```
minikube start
```

Install Minikube on macOS

```
brew install minikube

brew install kubectl
```

Start:

```
minikube start
```

Verify Kubernetes Cluster

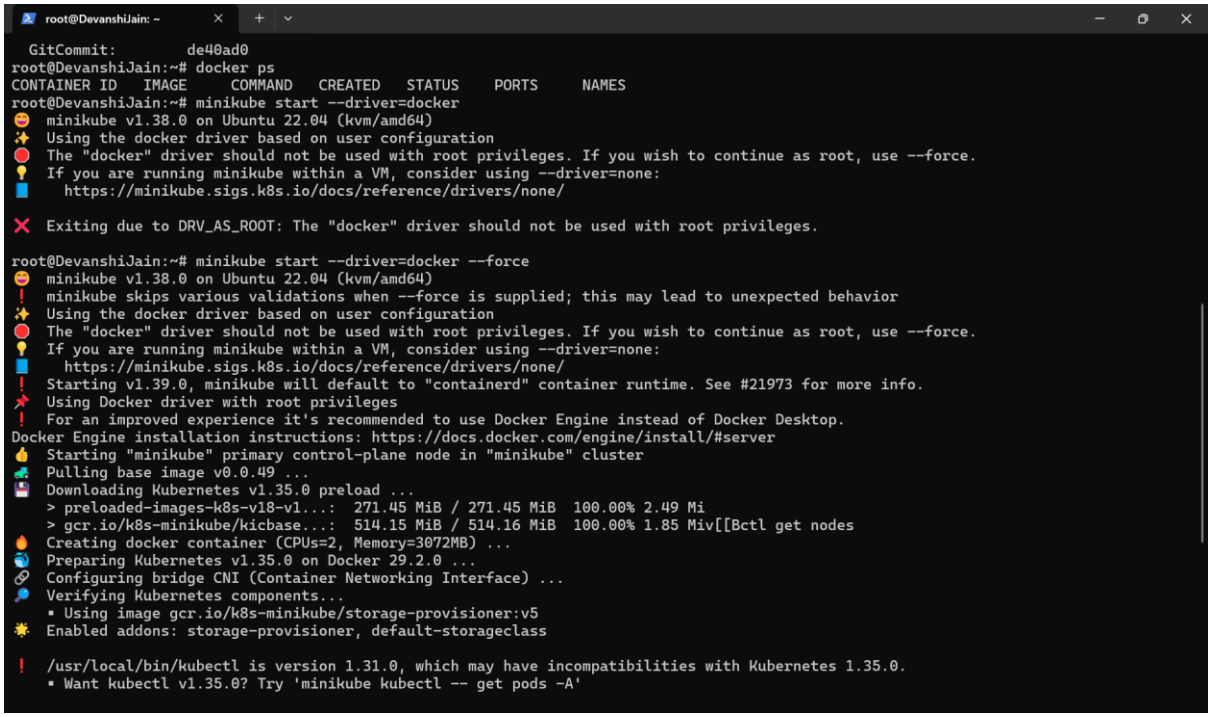
```
kubectl get nodes
```

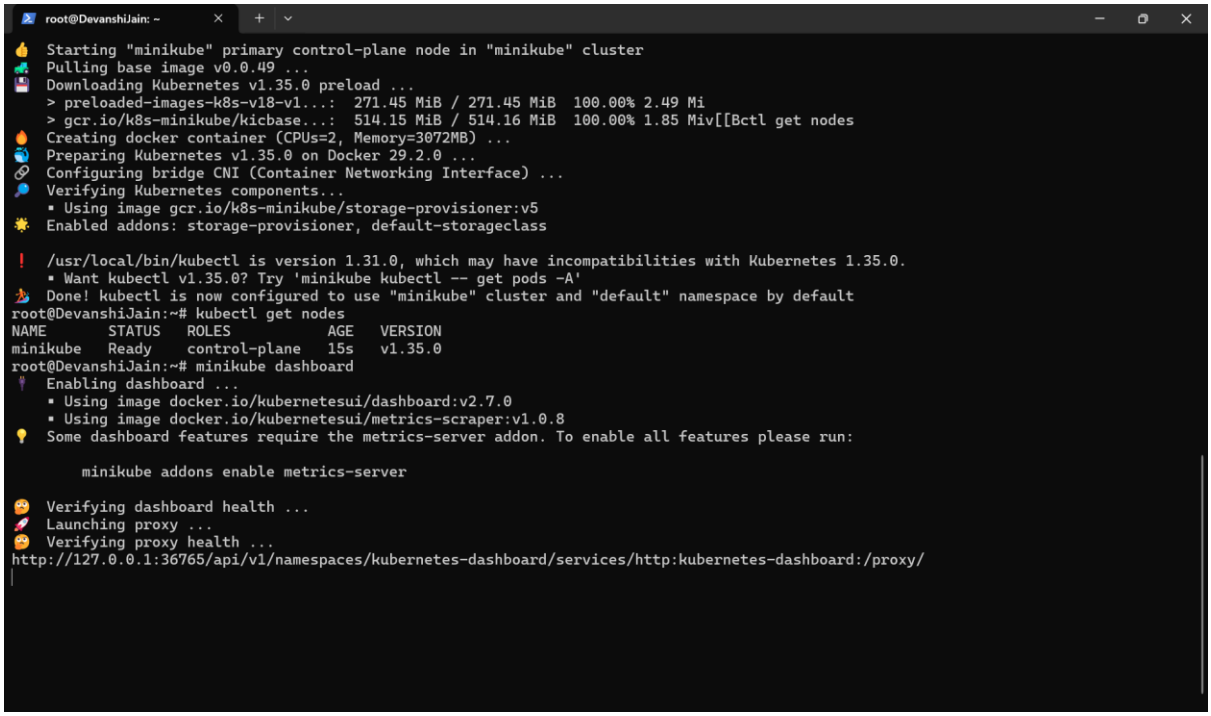
```
Expected output:

NAME      STATUS   ROLES          AGE   VERSION

minikube   Ready    control-plane   xx    v1.x
```

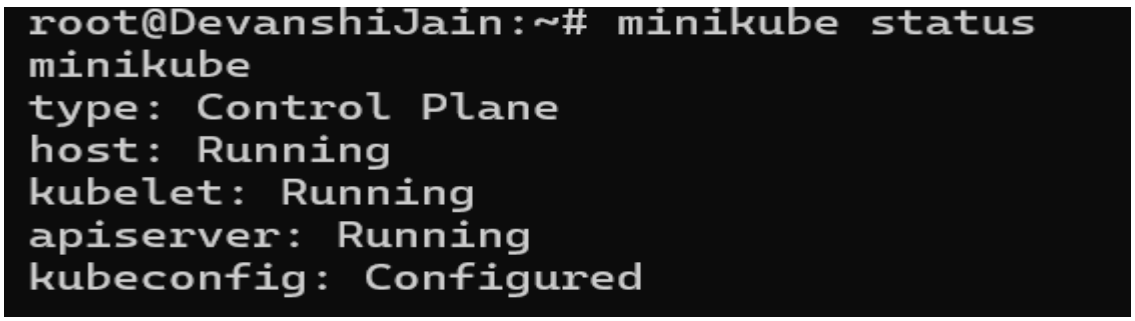
```
PS C:\Users\Devanshi\Desktop\COS_Lab\lab_7> docker --version
Docker version 28.3.2, build 578ccf6
PS C:\Users\Devanshi\Desktop\COS_Lab\lab_7> wsl -l -v
  NAME              STATE           VERSION
* docker-desktop    Running         2
  Ubuntu-22.04      Running         2
PS C:\Users\Devanshi\Desktop\COS_Lab\lab_7> wsl -d Ubuntu-22.04
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
```

```
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# curl -LO https://storage.googleapis.com/kubernetes-release/release/$(c
url -s https://storage.googleapis.com/kubernetes-release/release/stable.txt)/bin/linux/amd64/kubectl
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 53.7M  100 53.7M    0     0  3203k      0  0:00:17  0:00:17 --:--:-- 5878k
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# sudo install kubectl
install: missing destination file operand after 'kubectl'
Try 'install --help' for more information.
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# sudo install kubectl /usr/local/bin/kubectl
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# kubectl version --client
Client Version: v1.31.0
Kustomize Version: v5.4.2
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# curl -LO https://storage.googleapis.com/minikube/releases/latest/minik
ube-linux-amd64
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  128M  100  128M    0     0  4635k      0  0:00:28  0:00:28 --:--:-- 5258k
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# sudo install minikube-linux-amd64 /usr/local/bin/minikube
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# minikube version
minikube version: v1.38.0
commit: de81223c61ab1bd97dcfcfa6d9d5c59e5da4a0cf
```

```
root@DevanshiJain: ~
PS C:\Users\Devanshi\Desktop\COS_Lab\lab_7> wsl -d Ubuntu-22.04
root@DevanshiJain:/mnt/c/Users/Devanshi/Desktop/COS_Lab/lab_7# cd ~
root@DevanshiJain:~# service docker start
Failed to start docker.service: Unit docker.service not found.
root@DevanshiJain:~# docker version
Client:
 Version:           28.3.2
 API version:       1.51
 Go version:        go1.24.5
 Git commit:        578ccf6
 Built:             Wed Jul  9 16:12:50 2025
 OS/Arch:           linux/amd64
 Context:           default

Server: Docker Desktop 4.43.2 (199162)
 Engine:
  Version:          28.3.2
  API version:      1.51 (minimum version 1.24)
  Go version:       go1.24.5
  Git commit:       e77ff99
  Built:            Wed Jul  9 16:13:55 2025
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          1.7.27
  GitCommit:        05044ec0a9a75232cad458027ca83437aae3f4da
 runc:
  Version:          1.2.5
  GitCommit:        v1.2.5-0-g59923ef
 docker-init:
  Version:          0.19.0
  GitCommit:        de40ad0
root@DevanshiJain:~# docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
root@DevanshiJain:~# minikube start --driver=docker
😄  minikube v1.38.0 on Ubuntu 22.04 (kvm/amd64)
✨  Using the docker driver based on user configuration
```


root@DevanshiJain: ~
GitCommit: de40ad0
root@DevanshiJain:~# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
root@DevanshiJain:~# minikube start --driver=docker
minikube v1.38.0 on Ubuntu 22.04 (kvm/amd64)
Using the docker driver based on user configuration
The "docker" driver should not be used with root privileges. If you wish to continue as root, use --force.
If you are running minikube within a VM, consider using --driver=none:
https://minikube.sigs.k8s.io/docs/reference/drivers/none/
Exiting due to DRV_AS_ROOT: The "docker" driver should not be used with root privileges.
root@DevanshiJain:~# minikube start --driver=docker --force
minikube v1.38.0 on Ubuntu 22.04 (kvm/amd64)
minikube skips various validations when --force is supplied; this may lead to unexpected behavior
Using the docker driver based on user configuration
The "docker" driver should not be used with root privileges. If you wish to continue as root, use --force.
If you are running minikube within a VM, consider using --driver=none:
https://minikube.sigs.k8s.io/docs/reference/drivers/none/
Starting v1.39.0, minikube will default to "containerd" container runtime. See #21973 for more info.
Using Docker driver with root privileges
For an improved experience it's recommended to use Docker Engine instead of Docker Desktop.
Docker Engine installation instructions: https://docs.docker.com/engine/install/#server
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.49 ...
Downloading Kubernetes v1.35.0 preload ...
> preloaded-images-k8s-v18-v1...: 271.45 MiB / 271.45 MiB 100.00% 2.49 Mi
> gcr.io/k8s-minikube/kicbase...: 514.15 MiB / 514.16 MiB 100.00% 1.85 Miv[[Bctl get nodes
Creating docker container (CPUs=2, Memory=3072MB) ...
Preparing Kubernetes v1.35.0 on Docker 29.2.0 ...
Configuring bridge CNI (Container Networking Interface) ...
Verifying Kubernetes components...
▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
Enabled addons: storage-provisioner, default-storageclass
/usr/local/bin/kubectl is version 1.31.0, which may have incompatibilities with Kubernetes 1.35.0.
▪ Want kubectl v1.35.0? Try 'minikube kubectl -- get pods -A'


root@DevanshiJain: ~
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.49 ...
Downloading Kubernetes v1.35.0 preload ...
> preloaded-images-k8s-v18-v1...: 271.45 MiB / 271.45 MiB 100.00% 2.49 Mi
> gcr.io/k8s-minikube/kicbase...: 514.15 MiB / 514.16 MiB 100.00% 1.85 Miv[[Bctl get nodes
Creating docker container (CPUs=2, Memory=3072MB) ...
Preparing Kubernetes v1.35.0 on Docker 29.2.0 ...
Configuring bridge CNI (Container Networking Interface) ...
Verifying Kubernetes components...
▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
Enabled addons: storage-provisioner, default-storageclass
/usr/local/bin/kubectl is version 1.31.0, which may have incompatibilities with Kubernetes 1.35.0.
▪ Want kubectl v1.35.0? Try 'minikube kubectl -- get pods -A'
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
root@DevanshiJain:~# kubectl get nodes
NAME STATUS ROLES AGE VERSION
minikube Ready control-plane 15s v1.35.0
root@DevanshiJain:~# minikube dashboard
Enabling dashboard ...
▪ Using image docker.io/kubernetesui/dashboard:v2.7.0
▪ Using image docker.io/kubernetesui/metrics-scraper:v1.0.8
Some dashboard features require the metrics-server addon. To enable all features please run:
minikube addons enable metrics-server
Verifying dashboard health ...
Launching proxy ...
Verifying proxy health ...
http://127.0.0.1:36765/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/


root@DevanshiJain:~# minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

Useful Minikube Commands (Lab Ready)

Command	Purpose
minikube dashboard	Open K8s UI
minikube stop	Stop cluster
minikube delete	Delete cluster
minikube ssh	Access node
kubectl get pods -A	View all pods