1.Installed Docker and Installed Minikube. Configured with chmod

```
bala@ubuntu:~$ sudo apt install docker.io -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker.io is already the newest version (24.0.5-0ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
bala@ubuntu:~$ sudo docker --version
Docker version 24.0.5, build 24.0.5-0ubuntu1
bala@ubuntu:~$ sudo usermod -aG docker ubuntu
usermod: user 'ubuntu' does not exist
bala@ubuntu:~$ sudo usermod -aG docker $USER && newgrp docker
bala@ubuntu:~$ curl -Lo minikube https://storage.googleapis.com/minikube/releases/latest/minikube-
linux-amd64
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 91.1M  100 91.1M    0     0  11.1M      0  0:00:08  0:00:08 --:--:-- 18.9M
bala@ubuntu:~$ chmod +x minikube
bala@ubuntu:~$ sudo mv minikube /usr/local/bin/
bala@ubuntu:~$
```

2.Installed kubectl and configured with chmod

```
bala@ubuntu:~$ curl -LO "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/release/stable.t
xt)/bin/linux/amd64/kubectl"
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   138  100   138    0     0    376      0 --:--:-- --:--:-- --:--:--   376
100 49.0M  100 49.0M    0     0  3221k      0  0:00:15  0:00:15 --:--:-- 4047k
bala@ubuntu:~$ chmod +x kubectl
bala@ubuntu:~$ sudo mv kubectl /usr/local/bin/
bala@ubuntu:~$
```

3.Minikube Started & checked minikube status

```
bala@ubuntu:~$ minikube start --driver=docker
😄  minikube v1.33.1 on Ubuntu 23.10 (vbox/amd64)
✨  Using the docker driver based on user configuration
📌  Using Docker driver with root privileges
👍  Starting "minikube" primary control-plane node in "minikube" cluster
🚜  Pulling base image v0.0.44 ...
💾  Downloading Kubernetes v1.30.0 preload ...
    > preloaded-images-k8s-v18-v1...:  342.90 MiB / 342.90 MiB  100.00% 2.59 Mi
    > gcr.io/k8s-minikube/kicbase...:  481.58 MiB / 481.58 MiB  100.00% 2.95 Mi
🔥  Creating docker container (CPUs=2, Memory=3900MB) ...
🐳  Preparing Kubernetes v1.30.0 on Docker 26.1.1 ...
    ▪ Generating certificates and keys ...
    ▪ Booting up control plane ...
    ▪ Configuring RBAC rules ...
🔗  Configuring bridge CNI (Container Networking Interface) ...
🔎  Verifying Kubernetes components...
    ▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
🌟  Enabled addons: storage-provisioner, default-storageclass
🏄  Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
bala@ubuntu:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

bala@ubuntu:~$
```

4.kubectl commands

```
bala@ubuntu:~$ kubectl get namespace
NAME              STATUS   AGE
default           Active   127m
kube-node-lease   Active   127m
kube-public       Active   127m
kube-system       Active   127m
bala@ubuntu:~$ kubectl get nodes
NAME       STATUS   ROLES           AGE    VERSION
minikube   Ready    control-plane   127m   v1.30.0
bala@ubuntu:~$ kubectl get all
NAME                 TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
service/kubernetes   ClusterIP   10.96.0.1    <none>        443/TCP   127m
bala@ubuntu:~$ minikube stop
✋  Stopping node "minikube"  ...
🛑  Powering off "minikube" via SSH ...
🛑  1 node stopped.
bala@ubuntu:~$ minikube delete
🔥  Deleting "minikube" in docker ...
🔥  Deleting container "minikube" ...
🔥  Removing /home/bala/.minikube/machines/minikube ...
💀  Removed all traces of the "minikube" cluster.
```

5. Created manifest file for Namespace creation and Namespace (demo) created

```
bala@ubuntu:~/mini$ pwd
/home/bala/mini
bala@ubuntu:~/mini$ nano namespace.yaml
bala@ubuntu:~/mini$ cat namespace.yaml
apiVersion: v1
kind: Namespace
metadata:
  name: demo

bala@ubuntu:~/mini$ kubectl apply -f namespace.yaml
namespace/demo created
bala@ubuntu:~/mini$ kubectl get namespace
NAME              STATUS   AGE
default           Active   133m
demo              Active   2m42s
kube-node-lease   Active   133m
kube-public       Active   133m
kube-system       Active   133m
bala@ubuntu:~/mini$
```

6.Namespace creation using command line. Namespace (mydemo) created

```
bala@ubuntu:~/mini$ kubectl create namespace mydemo
namespace/mydemo created
bala@ubuntu:~/mini$ kubectl get namespace
NAME              STATUS   AGE
default           Active   3h12m
demo              Active   61m
kube-node-lease   Active   3h12m
kube-public       Active   3h12m
kube-system       Active   3h12m
mydemo            Active   29m
bala@ubuntu:~/mini$
```