```
ubuntu@ip-172-31-10-240:~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube && rm 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  10.8M      0  0:00:08  0:00:08 --:--:-- 15.3M
```

```
aws  Services  Search [Alt+S]
Last login: Tue Jul 30 09:29:38 2024 from 13.233.177.5
ubuntu@ip-172-31-10-240:~$ minikube start
* minikube v1.33.1 on Ubuntu 24.04 (xen/amd64)
* Automatically selected the docker driver. Other choices: ssh, none
* Using Docker driver with root privileges
* Starting "minikube" primary control-plane node in "minikube" cluster
* Pulling base image v0.0.44 ...
* Creating docker container (CPUs=2, Memory=2200MB) ...
* 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
ubuntu@ip-172-31-10-240:~$ kubectl version --client
Client Version: v1.30.3
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
```

```
ubuntu@ip-172-31-10-240:~$ alias kubectl="minikube kubectl --"
ubuntu@ip-172-31-10-240:~$ kubectl create deployment hello-minikube --image=kicbase/echo-server:1.0
kubectl expose deployment hello-minikube --type=NodePort --port=8080
deployment.apps/hello-minikube created
service/hello-minikube exposed
ubuntu@ip-172-31-10-240:~$ kubectl get services hello-minikube
NAME             TYPE       CLUSTER-IP     EXTERNAL-IP   PORT(S)          AGE
hello-minikube   NodePort   10.110.156.0   <none>        8080:31749/TCP   10s
ubuntu@ip-172-31-10-240:~$ minikube service hello-minikube
|-----------|----------------|-------------|---------------------------|
| NAMESPACE |      NAME      | TARGET PORT |            URL            |
|-----------|----------------|-------------|---------------------------|
| default   | hello-minikube |        8080 | http://192.168.49.2:31749 |
|-----------|----------------|-------------|---------------------------|
* Opening service default/hello-minikube in default browser...
  http://192.168.49.2:31749
ubuntu@ip-172-31-10-240:~$
```

```
* Opening service default/hello-minikube in default browser...
  http://192.168.49.2:31749
ubuntu@ip-172-31-10-240:~$ kubectl create deployment balanced --image=kicbase/echo-server:1.0
kubectl expose deployment balanced --type=LoadBalancer --port=8080
deployment.apps/balanced created
service/balanced exposed
ubuntu@ip-172-31-10-240:~$ minikube tunnel
Status:
        machine: minikube
        pid: 15682
        route: 10.96.0.0/12 -> 192.168.49.2
        minikube: Running
        services: [balanced]
    errors:
                minikube: no errors
                router: no errors
                loadbalancer emulator: no errors
```

```
ubuntu@ip-172-31-10-240:~$ kubectl get services balanced
NAME       TYPE           CLUSTER-IP      EXTERNAL-IP   PORT(S)          AGE
balanced   LoadBalancer   10.105.39.184   <pending>     8080:30108/TCP   9m6s
ubuntu@ip-172-31-10-240:~$ minikube addons enable ingress
* ingress is an addon maintained by Kubernetes. For any concerns contact minikube on GitHub.
You can view the list of minikube maintainers at: https://github.com/kubernetes/minikube/blob/master/OWNERS
  - Using image registry.k8s.io/ingress-nginx/controller:v1.10.1
  - Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v1.4.1
  - Using image registry.k8s.io/ingress-nginx/kube-webhook-certgen:v1.4.1
* Verifying ingress addon...
* The 'ingress' addon is enabled
ubuntu@ip-172-31-10-240:~$
```

```
ubuntu@ip-172-31-10-240:~$ kubectl get ingress
NAME              CLASS   HOSTS   ADDRESS        PORTS   AGE
example-ingress   nginx   *       192.168.49.2   80      72s
ubuntu@ip-172-31-10-240:~$
```

```
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
ubuntu@ip-172-31-10-240:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

ubuntu@ip-172-31-10-240:~$
```

```
ubuntu@ip-172-31-10-240:~$ kubectl get nodes
NAME       STATUS   ROLES           AGE   VERSION
minikube   Ready    control-plane   70s   v1.30.0
ubuntu@ip-172-31-10-240:~$
```

```
ubuntu@ip-172-31-10-240:~$ kubectl get nodes
NAME       STATUS   ROLES           AGE   VERSION
minikube   Ready    control-plane   70s   v1.30.0
ubuntu@ip-172-31-10-240:~$ kubectl get namespaces
NAME              STATUS   AGE
default           Active   92s
kube-node-lease   Active   92s
kube-public       Active   92s
kube-system       Active   93s
ubuntu@ip-172-31-10-240:~$ vi namespace.yaml
ubuntu@ip-172-31-10-240:~$ kubectl apply -f namespace.yaml
namespace/my-namespace created
```

```
ubuntu@ip-172-31-10-240:~$ vi namespace.yaml
ubuntu@ip-172-31-10-240:~$ kubectl apply -f namespace.yaml
namespace/my-namespace created
ubuntu@ip-172-31-10-240:~$ kubectl create namespace namespace
namespace/namespace created
ubuntu@ip-172-31-10-240:~$ kubectl get namespaces
NAME              STATUS   AGE
default           Active   3m32s
kube-node-lease   Active   3m32s
kube-public       Active   3m32s
kube-system       Active   3m33s
my-namespace      Active   50s
namespace         Active   24s
ubuntu@ip-172-31-10-240:~$ vi my-pod.yaml
ubuntu@ip-172-31-10-240:~$ kubectl apply -f my-pod.yaml
pod/my-pod created
ubuntu@ip-172-31-10-240:~$ kubectl get pods --namespace=my-namespace
NAME     READY   STATUS    RESTARTS   AGE
my-pod   1/1     Running   0          17s
```

```
ubuntu@ip-172-31-10-240:~$ kubectl delete namespace namespace
namespace "namespace" deleted
ubuntu@ip-172-31-10-240:~$
ubuntu@ip-172-31-10-240:~$ kubectl delete namespace my-namespace
namespace "my-namespace" deleted
ubuntu@ip-172-31-10-240:~$ kubectl get namespaces
NAME              STATUS   AGE
default           Active   6m43s
kube-node-lease   Active   6m43s
kube-public       Active   6m43s
kube-system       Active   6m44s
```

```
ubuntu@ip-172-31-10-240:~$ minikube stop
* Stopping node "minikube"  ...
* Powering off "minikube" via SSH ...
* 1 node stopped.
ubuntu@ip-172-31-10-240:~$ minikube delete
* Deleting "minikube" in docker ...
* Deleting container "minikube" ...
* Removing /home/ubuntu/.minikube/machines/minikube ...
* Removed all traces of the "minikube" cluster.
ubuntu@ip-172-31-10-240:~$
```

```
ubuntu@ip-172-31-10-240:~$ sudo apt update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [317 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [82.7 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [5640 B]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [318 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [133 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [12.5 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1016 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [265 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [63.1 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [3632 B]
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [246 kB]
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [106 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [9164 B]
Fetched 1942 kB in 2s (853 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
39 packages can be upgraded. Run 'apt list --upgradable' to see them.
```