

Setup minikube at your local and explore creating namespaces (Go through official documentation)

Step 1: Open Linux and install the latest update.

```
root@SSIDLLMIIT003: /home/ x + v
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.133.1-microsoft-standard-WSL2 x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
  just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge

This message is shown once a day. To disable it please create the
/home/prabhu/.hushlogin file.
prabhu@SSIDLLMIIT003:~$ sudo su
[sudo] password for prabhu:
root@SSIDLLMIIT003:/home/prabhu# apt update
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:2 https://pkg.jenkins.io/debian-stable binary/ Release [2044 B]
Get:3 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:4 https://pkg.jenkins.io/debian-stable binary/ Packages [26.4 kB]
0% [Connecting to archive.ubuntu.com (91.189.91.81)] [Connecting to security.ubuntu.com (185.125.190.39)]
```

Step 2: Installing docker.

```
root@SSIDLLMIIT003: /home/ x + v
root@SSIDLLMIIT003:/home/prabhu# docker --version
Docker version 24.0.5, build 24.0.5-0ubuntu1~22.04.1
root@SSIDLLMIIT003:/home/prabhu#
```

### Step 3: Installing Kubernetes.

```
root@SSIDLLMIIT003: /home/ x + v
root@SSIDLLMIIT003:/home/prabhu# curl -o kubect1 https://amazon-eks.s3.us-west-2.amazonaws.com/1.19.6/2021-01-05/bin/linux/amd64/kubect1
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left     Speed
100 57.4M  100 57.4M    0     0  882k      0  0:01:06  0:01:06 --:--:-- 973k
root@SSIDLLMIIT003:/home/prabhu# chmod +x ./kubect1
root@SSIDLLMIIT003:/home/prabhu# mv ./kubect1 /usr/local/bin
root@SSIDLLMIIT003:/home/prabhu# kubect1 version --short --client
Client Version: v1.19.6-eks-49a6c0
root@SSIDLLMIIT003:/home/prabhu#
```

### Step 4: after that Install minikube.

```
root@SSIDLLMIIT003: /home/ x + v
root@SSIDLLMIIT003:/home/prabhu# curl -LO 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 89.3M  100 89.3M    0     0 8571k      0  0:00:10  0:00:10 --:--:-- 11.7M
root@SSIDLLMIIT003:/home/prabhu# sudo install minikube-linux-amd64 /usr/local/bin/minikube
root@SSIDLLMIIT003:/home/prabhu#
```

Step 5: Then run the “minikube start” command (don’t run this command in root user)

```
prabhu@SSIDLLMIIT003: ~  
[sudo] password for prabhu:  
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current  
           Dload  Upload   Total     Spent    Left     Speed  
100 89.3M  100 89.3M    0     0  8992k      0  0:00:10  0:00:10 --:--:-- 11.6M  
prabhu@SSIDLLMIIT003:~$ sudo install minikube-linux-amd64 /usr/local/bin/minikube  
prabhu@SSIDLLMIIT003:~$ minikube start  
minikube: command not found  
prabhu@SSIDLLMIIT003:~$ minikube start  
🐳 minikube v1.32.0 on Ubuntu 22.04 (amd64)  
🔧 Automatically selected the docker driver. Other choices: none, ssh  
🔧 Using Docker driver with root privileges  
🌟 Starting control plane node minikube in cluster minikube  
📡 Pulling base image ...  
📦 Downloading Kubernetes v1.28.3 preload ...  
> preloaded-images-k8s-v18-v1...: 403.35 MiB / 403.35 MiB 100.00% 10.97 M  
> gcr.io/k8s-minikube/kicbase...: 453.89 MiB / 453.90 MiB 100.00% 10.68 M  
🔥 Creating docker container (CPUs=2, Memory=2200MB) ...  
📦 Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...  
▪ 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  
  
! /usr/local/bin/kubectl is version 1.19.6-eks-49a6c0, which may have incompatibilities with Kubernetes 1.28.3.  
▪ Want kubectl v1.28.3? Try 'minikube kubectl -- get pods -A'  
🎉 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default  
prabhu@SSIDLLMIIT003:~$
```

Step 6: To see the minikube dashboard run the command “ minikube dashboard”

```
prabhu@SSIDLLMIIT003: ~  
> gcr.io/k8s-minikube/kicbase...: 453.89 MiB / 453.90 MiB 100.00% 10.68 M  
🔥 Creating docker container (CPUs=2, Memory=2200MB) ...  
📦 Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...  
▪ 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  
  
! /usr/local/bin/kubectl is version 1.19.6-eks-49a6c0, which may have incompatibilities with Kubernetes 1.28.3.  
▪ Want kubectl v1.28.3? Try 'minikube kubectl -- get pods -A'  
🎉 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default  
prabhu@SSIDLLMIIT003:~$ 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 ...  
📡 Opening http://127.0.0.1:43761/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in  
your default browser...  
🔧 http://127.0.0.1:43761/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/
```

## Step 7: creating namespace and changing the default namespace to new one

```
prabhu@SSIDLLMIIT003: ~$ kubectl create namespace my-minikube
namespace/my-minikube created
prabhu@SSIDLLMIIT003:~$ kubectl get namespaces
NAME                STATUS   AGE
default             Active   31m
kube-node-lease     Active   31m
kube-public         Active   31m
kube-system         Active   31m
kubernetes-dashboard Active   5m46s
my-minikube         Active   7s
prabhu@SSIDLLMIIT003:~$ kubectl get pods
No resources found in default namespace.
prabhu@SSIDLLMIIT003:~$ kubectl config set-context --current --namespace=my-minikube
Context "minikube" modified.
prabhu@SSIDLLMIIT003:~$ kubectl get namespaces
NAME                STATUS   AGE
default             Active   34m
kube-node-lease     Active   34m
kube-public         Active   34m
kube-system         Active   34m
kubernetes-dashboard Active   8m27s
my-minikube         Active   2m48s
prabhu@SSIDLLMIIT003:~$ kubectl get pods
No resources found in my-minikube namespace.
prabhu@SSIDLLMIIT003:~$
```