

Installing and setting up Kubernetes Minikube

Update system packages and Install dependencies

```
sudo apt update && sudo apt upgrade -y
```

```
sudo apt install -y curl wget apt-transport-https conntrack socat
```

[illegible]

Install Docker, Kubectl and Minikube

Install Docker

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

```
sudo systemctl start docker
```

```
sudo systemctl enable docker
```

```
docker --version
```

Install Kubectl

```
curl -LO "https://dl.k8s.io/release/$(curl -L -s  
https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl"
```

```
chmod +x kubectl
```

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

```
kubectl version --client
```

Install Minikube

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

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

```
minikube version
```

```
Mar 18 05:20:13 RATHEESH dockerd[4599]: time="2025-03-18T05:20:13.083614819Z" level=info msg="Initializing buildkit"
Mar 18 05:20:13 RATHEESH dockerd[4599]: time="2025-03-18T05:20:13.942586136Z" level=info msg="Completed buildkit initialization"
Mar 18 05:20:13 RATHEESH dockerd[4599]: time="2025-03-18T05:20:13.958143994Z" level=info msg="Daemon has completed initialization"
Mar 18 05:20:13 RATHEESH dockerd[4599]: time="2025-03-18T05:20:13.958249236Z" level=info msg="API listen on /run/docker.sock"
Mar 18 05:20:13 RATHEESH systemd[1]: Started docker.service - Docker Application Container Engine.
Mar 18 05:20:32 RATHEESH dockerd[4599]: time="2025-03-18T05:20:32.462865348Z" level=info msg="ignoring event" container=2fe30d959b564b88289b6c3
Mar 18 10:06:37 RATHEESH dockerd[4599]: time="2025-03-18T10:06:37.432374106Z" level=error msg="Upload failed: denied: requested access to the r
Mar 18 10:06:37 RATHEESH dockerd[4599]: time="2025-03-18T10:06:37.448304272Z" level=info msg="Attempting next endpoint for push after error: de
Mar 18 10:07:21 RATHEESH dockerd[4599]: 2025/03/18 10:07:21 http2: server: error reading preface from client @: read unix /run/docker.sock->
Mar 18 10:07:24 RATHEESH dockerd[4599]: time="2025-03-18T10:07:24.942362434Z" level=error msg="Upload failed: denied: requested access to the r
Mar 18 10:07:24 RATHEESH dockerd[4599]: time="2025-03-18T10:07:24.943566243Z" level=info msg="Attempting next endpoint for push after error: de
-- Boot c4f8176f9151dc85ba5ca8bf72c8ea72 --
Mar 19 03:18:59 RATHEESH systemd[1]: Starting docker.service - Docker Application Container Engine...
Mar 19 03:18:59 RATHEESH dockerd[386]: time="2025-03-19T03:18:59.852682333Z" level=info msg="Starting up"
Mar 19 03:18:59 RATHEESH dockerd[386]: time="2025-03-19T03:18:59.858358121Z" level=info msg="OTEL tracing is not configured, using no-op trace:
Mar 19 03:18:59 RATHEESH dockerd[386]: time="2025-03-19T03:18:59.884575868Z" level=info msg="[graphdriver] using prior storage driver: overlay2"
Mar 19 03:19:00 RATHEESH dockerd[386]: time="2025-03-19T03:19:00.822694391Z" level=info msg="Loading containers: start."
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.834818635Z" level=info msg="Loading containers: done."
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.859180899Z" level=warning msg="WARNING: No blkio throttle.read_bps_device supp
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.859237056Z" level=warning msg="WARNING: No blkio throttle.write_bps_device supp
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.859243983Z" level=warning msg="WARNING: No blkio throttle.read_iops_device supp
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.859248177Z" level=warning msg="WARNING: No blkio throttle.write_iops_device supp
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.859275844Z" level=info msg="Docker daemon" commit=bdb8a17 containerd-snapshott
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.859285853Z" level=info msg="Initializing buildkit"
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.234687067Z" level=info msg="Completed buildkit initialization"
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.244991670Z" level=info msg="Daemon has completed initialization"
Mar 19 03:19:01 RATHEESH dockerd[386]: time="2025-03-19T03:19:01.245175113Z" level=info msg="API listen on /run/docker.sock"
Mar 19 03:19:01 RATHEESH systemd[1]: Started docker.service - Docker Application Container Engine.
Mar 19 03:32:18 RATHEESH dockerd[386]: time="2025-03-19T03:32:18.916294447Z" level=info msg="ignoring event" container=f98da8099f19b357baef1e26
lines 1-39
^C
rathesh@RATHEESH:~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube
minikube version
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 119M 100 119M 0 0 793k 0 0:02:53 0:02:53 --:--:-- 1056k
minikube version: v1.35.8
commit: dd5d326e41b5451cdf3c61891bc4d13d189586ad-dirty
rathesh@RATHEESH:~$
```

Fix Docker setup

```
sudo usermod -aG docker $USER
```

```
reboot
```

Verify Installation after reboot

```
docker run hello-world
```

Start and open Minikube

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

```
minikube dashboard
```

Deploying the docker image from dockerhub

```
mkdir docker
```

```
nano Dockerfile
```

```
npm init -y
```

```
npm init -y // again if the previous command installed npm
```

```
cd ..
```

```
docker pull sanjai4334/docker:latest . // replace with your docker uid/repo:image_tag
```

```
cd docker
```

```
docker build -t sanjai4334/docker/latest
```

```
docker ps -a
```

```
sudo nano nginx-deployment.yaml
```

```
kubectl apply -f nginx-deployment.yaml
```

```
sudo nano service.yaml
```

```
kubectl apply -f service.yaml
```

```
kubectl get pods
```

```
minikube get svc my-app
```

```
minikube service my-app --url
```

- open the url in browser

```
curl <url>
```