```dockerfile
FROM ubuntu
EXPOSE 6379
RUN apt update && apt install redis-server -y
WORKDIR /root
ENTRYPOINT redis-server --protected-mode no
~
```

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: redis-deploy
spec:
  replicas: 1
  selector:
    matchLabels:
      app: redis
  template:
    metadata:
      labels:
        app: redis
    spec:
      containers:
      - name: test-redis
        image: thoratshubham/redis
        ports:
          - containerPort: 6379
```
~

```yaml
apiVersion: v1
kind: Service
metadata:
  name: access-redis
spec:
  type: NodePort
  selector:
    app: redis
  ports:
    - protocol: TCP
      port: 6379
      targetPort: 6379
      nodePort: 30080
~
```
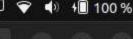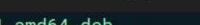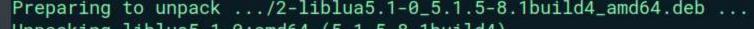
```
henrry    master

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master   docker build --tag my-redis .
Sending build context to Docker daemon  71.17kB
Step 1/5 : FROM ubuntu
 ---> 01f29b872827
Step 2/5 : EXPOSE 6379
 ---> Running in 7f84c1a25cae
Removing intermediate container 7f84c1a25cae
 ---> 44acc1d4f372
Step 3/5 : RUN apt update && apt install redis-server -y
 ---> Running in f46039c7c710

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Get:1 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [44.0 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [980 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:10 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [860 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [897 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1136 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1241 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.8 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [923 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [25.6 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [49.2 kB]
Fetched 26.5 MB in 9s (3069 kB/s)
Reading package lists...
Building dependency tree...
Reading state information...
2 packages can be upgraded. Run 'apt list --upgradable' to see them.

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Reading package lists...
Building dependency tree
```

```
Preparing to unpack .../2-liblua5.1-0_5.1.5-8.1build4_amd64.deb ...
Unpacking liblua5.1-0:amd64 (5.1.5-8.1build4) ...
Selecting previously unselected package liblzf1:amd64.
Preparing to unpack .../3-liblzf1_3.6-3_amd64.deb ...
Unpacking liblzf1:amd64 (3.6-3) ...
Selecting previously unselected package lua-bitop:amd64.
Preparing to unpack .../4-lua-bitop_1.0.2-5_amd64.deb ...
Unpacking lua-bitop:amd64 (1.0.2-5) ...
Selecting previously unselected package lua-cjson:amd64.
Preparing to unpack .../5-lua-cjson_2.1.0+dfsg-2.1_amd64.deb ...
Unpacking lua-cjson:amd64 (2.1.0+dfsg-2.1) ...
Selecting previously unselected package redis-tools.
Preparing to unpack .../6-redis-tools_5%3a6.0.16-1ubuntu1_amd64.deb ...
Unpacking redis-tools (5:6.0.16-1ubuntu1) ...
Selecting previously unselected package redis-server.
Preparing to unpack .../7-redis-server_5%3a6.0.16-1ubuntu1_amd64.deb ...
Unpacking redis-server (5:6.0.16-1ubuntu1) ...
Setting up libjemalloc2:amd64 (5.2.1-4ubuntu1) ...
Setting up lua-cjson:amd64 (2.1.0+dfsg-2.1) ...
Setting up liblzf1:amd64 (3.6-3) ...
Setting up libatomic1:amd64 (12.3.0-1ubuntu1~22.04) ...
Setting up lua-bitop:amd64 (1.0.2-5) ...
Setting up liblua5.1-0:amd64 (5.1.5-8.1build4) ...
Setting up redis-tools (5:6.0.16-1ubuntu1) ...
Setting up redis-server (5:6.0.16-1ubuntu1) ...
invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of start.
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Removing intermediate container f46039c7c710
 ---> 95414cfa5c02
Step 4/5 : WORKDIR /root
 ---> Running in 5517f0240dad
Removing intermediate container 5517f0240dad
 ---> 9d57c957d44b
Step 5/5 : ENTRYPOINT redis-server --protected-mode no
 ---> Running in 57df8530e702
Removing intermediate container 57df8530e702
 ---> 6fd17b74aa09
Successfully built 6fd17b74aa09
Successfully tagged my-redis:latest

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry   master 
```

```
[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master    docker run -d -p 6379:6379 my-redis
640e81307b1eb90f6522c4a5ca9130affecee899034456dfa20da6c642bc95ab

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master    docker ps
CONTAINER ID   IMAGE                                COMMAND                CREATED             STATUS             PORTS
                                                                                                                 NAMES
640e81307b1e   my-redis                             "/bin/sh -c 'redis-s…" 5 seconds ago       Up 3 seconds       0.0.0.0:6379->6379/tcp, :::6379->6379/tcp
                                                                                                                 happy_lederberg
18ace0f7cb2b   gcr.io/k8s-minikube/kicbase:v0.0.40  "/usr/local/bin/entr…" About an hour ago   Up About an hour   127.0.0.1:32772->22/tcp, 127.0.0.1:32771->2376/tcp,
  127.0.0.1:32770->5000/tcp, 127.0.0.1:32769->8443/tcp, 127.0.0.1:32768->32443/tcp   minikube

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master    redis-cli -h localhost -p 6379
localhost:6379> set name shubham
OK
localhost:6379> get name
"shubham"
localhost:6379> set status "It Works!!!"
OK
localhost:6379> get status
"It Works!!!"
localhost:6379> exit

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master
```

henrry@Mark-1L:~/Documents/Study/projects/Simpli/DCA/docker-project

```
[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master    docker tag my-redis thoratshubham/redis

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master    docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: thoratshubham
Password:
WARNING! Your password will be stored unencrypted in /home/henrry/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master    docker push thoratshubham/redis
Using default tag: latest
The push refers to repository [docker.io/thoratshubham/redis]
d54a661293a3: Pushed
bce45ce613d3: Layer already exists
latest: digest: sha256:07d7fed18625abe4d699edd3513aa64d7f00f6ccd2d0532fe7341d95f1f17ddc size: 741

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master
```

henrry@Mark-1L:~/Documents/Study/projects/Simpli/DCA/docker-project

```
[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry     master    kubectl get pods
No resources found in default namespace.

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry     master    kubectl apply -f deployment.yml
deployment.apps/redis-deploy created

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry     master    kubectl get pods
NAME                          READY   STATUS             RESTARTS   AGE
redis-deploy-79c4576fdb-6px67   0/1     ContainerCreating   0          9s

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry     master    kubectl get deployments
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
redis-deploy   1/1     1            1           16s

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry     master    kubectl get replicasets
NAME                     DESIRED   CURRENT   READY   AGE
redis-deploy-79c4576fdb   1         1         1       25s

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry     master    
```

redis-cli -h 192.168.49.2 -p 30080

```
[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master   kubectl get services
NAME          TYPE        CLUSTER-IP    EXTERNAL-IP   PORT(S)    AGE
kubernetes    ClusterIP   10.96.0.1     <none>        443/TCP    10h

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master   kubectl apply -f service.yml
service/access-redis created

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master   kubectl get services
NAME            TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)          AGE
access-redis    NodePort    10.109.211.69  <none>        6379:30080/TCP   4s
kubernetes      ClusterIP   10.96.0.1      <none>        443/TCP          10h

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master   minikube ip
192.168.49.2

[~/Documents/Study/projects/Simpli/DCA/docker-project]
henrry    master   redis-cli -h 192.168.49.2 -p 30080
192.168.49.2:30080> set status "It works in minikube too!!"
OK
192.168.49.2:30080> get status
"It works in minikube too!!"
192.168.49.2:30080>
```