Kubernetes Task3 by Subiksha P R

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Definition:

Kubernetes is a tool that helps manage and run apps inside containers. It makes sure your apps stay up, scale with traffic, and recover if something goes wrong. It automates many tasks, so you don’t have to worry about the details.

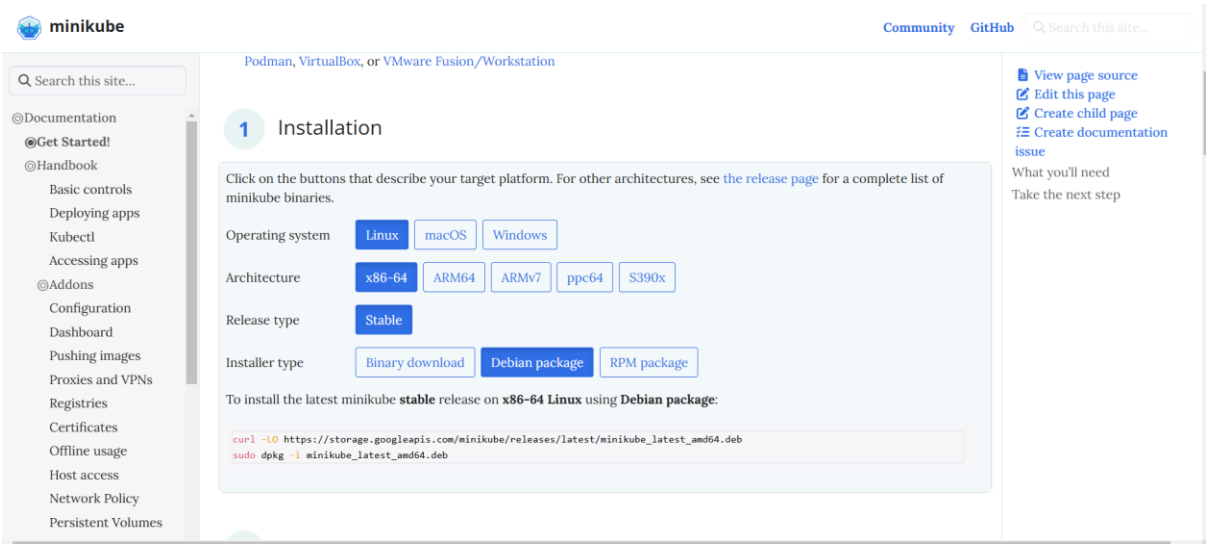
Commands to install,

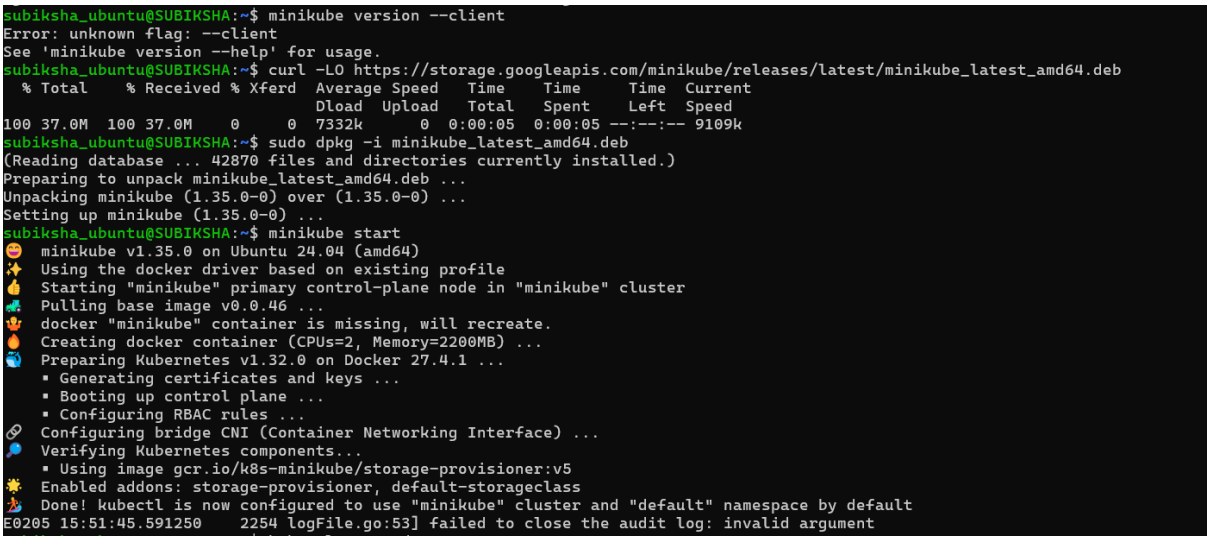
Give these below commands in ubuntu terminal-

curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube_latest_amd64.deb

sudo dpkg -i minikube_latest_amd64.deb

minikube start





Working:

1. **kubectl create deployment deep --image=subiksha17/my_jenkins --port=80**

    a. **Purpose**: Create a deployment, run Jenkins.
    b. **What happens**: Creates a deployment using the specified image (subiksha17/my_jenkins) and exposes port 80.

2. **kubectl get deployments**

    a. **Purpose**: List all Kubernetes deployments.
    b. **What happens**: Displays details of all active deployments in the cluster.

3. **kubectl get pods**

    a. **Purpose**: List all Kubernetes pods.
    b. **What happens**: Shows all the pods, which are instances of your containers, running in the cluster.

4. **kubectl expose deployment deep --type=NodePort --port=80**

    a. **Purpose**: Expose deployment via NodePort.
    b. **What happens**: Creates a service to expose the deep deployment on port 80 with access from outside the cluster.

5. **kubectl get svc**

    a. **Purpose**: List all services in cluster.
    b. **What happens**: Displays the services, including the one created to expose the deep deployment.

6. **minikube service deep**

    a. **Purpose**: Access the service locally via Minikube.
    b. **What happens**: Opens a browser to access the deep service running inside the Minikube cluster.

Output:

```
subiksha_ubuntu@SUBIKSHA:~$ kubectl create deployment deep --image=subiksha17/my_jenkins --port=80
deployment.apps/deep created
subiksha_ubuntu@SUBIKSHA:~$ kubectl get deployments
NAME   READY   UP-TO-DATE   AVAILABLE   AGE
deep   1/1     1            1           26s
subiksha_ubuntu@SUBIKSHA:~$ kubectl get pods
NAME                    READY   STATUS    RESTARTS   AGE
deep-7b7cf5b546-vmn2n   1/1     Running   0          30s
subiksha_ubuntu@SUBIKSHA:~$ kubectl expose deployment deep --type=NodePort --port=80
service/deep exposed
subiksha_ubuntu@SUBIKSHA:~$ kubectl get svc
NAME         TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)        AGE
deep         NodePort    10.98.34.148   <none>        80:32765/TCP   15s
kubernetes   ClusterIP   10.96.0.1      <none>        443/TCP        5m55s
subiksha_ubuntu@SUBIKSHA:~$ minicube service deep
Command 'minicube' not found, did you mean:
  command 'minitube' from deb minitube (3.9.3-2)
Try: sudo apt install <deb name>
subiksha_ubuntu@SUBIKSHA:~$ minikube service deep
|-----------|------|-------------|---------------------------|
| NAMESPACE | NAME | TARGET PORT |            URL            |
|-----------|------|-------------|---------------------------|
| default   | deep |          80 | http://192.168.49.2:32765 |
|-----------|------|-------------|---------------------------|
🏃  Starting tunnel for service deep.
|-----------|------|-------------|------------------------|
| NAMESPACE | NAME | TARGET PORT |          URL           |
|-----------|------|-------------|------------------------|
| default   | deep |             | http://127.0.0.1:36153 |
|-----------|------|-------------|------------------------|
🎉  Opening service default/deep in default browser...
👉  http://127.0.0.1:36153
❗  Because you are using a Docker driver on linux, the terminal needs to be open to run it.
^C✋  Stopping tunnel for service deep.
E0205 16:00:49.960873    8299 logFile.go:53] failed to close the audit log: invalid argument
subiksha_ubuntu@SUBIKSHA:~$ minikube version
minikube version: v1.35.0
commit: dd5d320e41b5451cdf3c01891bc4e13d189586ed-dirty
```