1 - Create minikube cluster

```
heba@heba-HP-ProBook-450-G4:~$ kubectl cluster-info
Kubernetes control plane is running at https://192.168.49.2:8443
CoreDNS is running at https://192.168.49.2:8443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
heba@heba-HP-ProBook-450-G4:~$ kubectl version -o
error: flag needs an argument: 'o' in -o
See 'kubectl version --help' for usage.
heba@heba-HP-ProBook-450-G4:~$ kubectl version -o yaml
clientVersion:
  buildDate: "2023-06-14T09:53:42Z"
  compiler: gc
  gitCommit: 25b4e43193bcda6c7328a6d147b1fb73a33f1598
  gitTreeState: clean
  gitVersion: v1.27.3
  goVersion: go1.20.5
  major: "1"
  minor: "27"
  platform: linux/amd64
kustomizeVersion: v5.0.1
serverVersion:
  buildDate: "2023-03-15T13:33:12Z"
  compiler: gc
  gitCommit: 9e644106593f3f4aa98f8a84b23db5fa378900bd
  gitTreeState: clean
  gitVersion: v1.26.3
  goVersion: go1.19.7
  major: "1"
  minor: "26"
  platform: linux/amd64
```

2 - create nginx deployment with 3 replicas

```
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ vim nginx-deployment.yaml
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl apply -f nginx-deployment.yaml
deployment.apps/nginx-deployment created
```

```
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl get deployments
NAME               READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment   3/3     3            3           37s
nginx-web          1/1     1            1           21m
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
nginx-deployment-6b7f675859-m67jp   1/1     Running   0          42s
nginx-deployment-6b7f675859-v5f4h   1/1     Running   0          42s
nginx-deployment-6b7f675859-xsgct   1/1     Running   0          42s
```

3 - create service to point to this deployment, type cluster IP

```
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ vim nginx-service.yaml
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl apply -f nginx-service.yaml
service/nginx-service created
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl get services
NAME            TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)   AGE
kubernetes      ClusterIP   10.96.0.1      <none>        443/TCP   43m
nginx-service   ClusterIP   10.99.154.6    <none>        80/TCP    7s
```

4 - create debug pod to test the service

```
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ vim debug-pod.yaml
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl apply -f debug-pod.yaml
pod/debug-pod created
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl get service nginx-service
NAME            TYPE        CLUSTER-IP     EXTERNAL-IP   PORT(S)   AGE
nginx-service   ClusterIP   10.99.154.6    <none>        80/TCP    5m17s
```

```
heba@heba-HP-ProBook-450-G4:~/Sprints-DevOps/kubernetes$ kubectl exec -it debug-pod -- sh
# curl 10.99.154.6
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
```