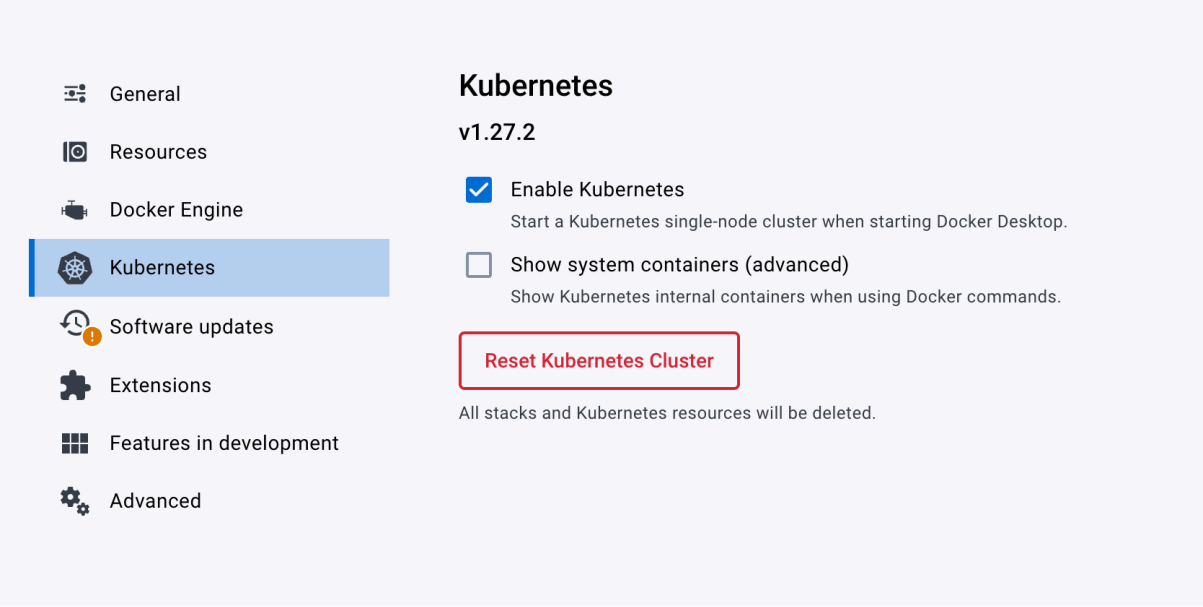
Lab Exercise 8– Creating Service in Kubernetes

Below is a lab exercise that will help you understand and practice creating a service in Kubernetes:

Task 1: Start Kubernetes in Docker-Desktop

- Start Kubernetes service in Docker-Desktop



Task 2: Creating a Service

Create a service to expose the deployed application within the Kubernetes cluster. You can use the following sample YAML manifest as a reference:

service.yaml > { } spec > [ ] ports > { } 0 > # nodePort
io.k8s.api.core.v1.Service (v1@service.json)

```yaml
apiVersion: v1
kind: Service
metadata:
  name: my-service
spec:
  selector:
    app: lbnginx
  ports:
  - protocol: TCP
    port: 80
    nodePort: 30003
  type: NodePort
```

- Apply the service using the following command:

```
(base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl apply -f service.yaml

service/my-nginx-service-1 created
```

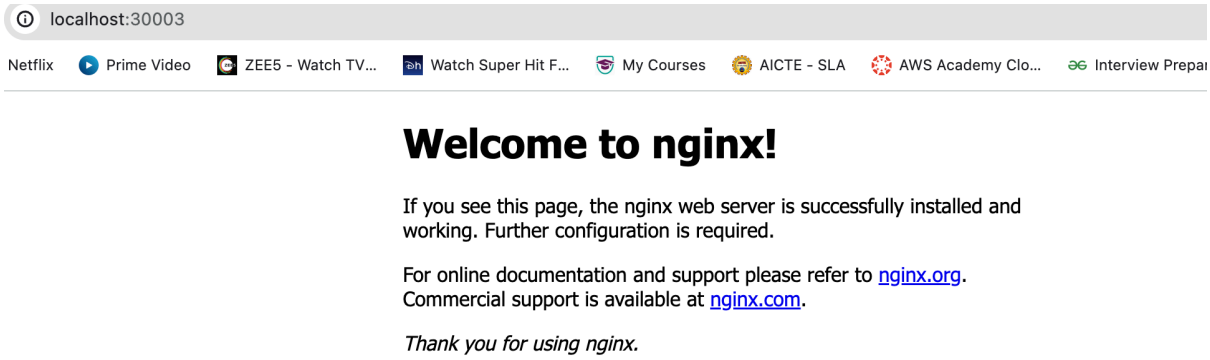
```
(base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl get services
NAME                 TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes           ClusterIP   10.96.0.1        <none>        443/TCP        41d
my-nginx-service-1   NodePort    10.110.163.141   <none>        80:30003/TCP   28s
```

- Verify that the service is created by running the following command:

Task 4: Accessing the Service

- Access the service using port forwarding. Run the following command:

Access the Nginx server running in the service by opening a web browser and navigating to



Task 5: Deleting the Service

Delete the service using the following command:

```
kubectl delete service my-service
```

```
service/my-service created
(base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl get services
NAME                 TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes           ClusterIP   10.96.0.1        <none>        443/TCP        42d
my-nginx-service-1   NodePort    10.110.163.141   <none>        80:30003/TCP   15m
my-service           NodePort    10.97.139.239    <none>        80:30001/TCP   9s
(base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl delete service my-service
service "my-service" deleted
```

```
(base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl get services
NAME                 TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes           ClusterIP   10.96.0.1        <none>        443/TCP        42d
my-nginx-service-1   NodePort    10.110.163.141   <none>        80:30003/TCP   21m
```

Verify that the service has been deleted by running the kubectl get services command.

Task 6: Cleanup

Delete any remaining deployments, services, and resources created during the exercise using the appropriate kubectl delete commands.

Task 7: Documentation and Best Practices

Document your findings and the best practices for creating and managing services in Kubernetes.

Through this exercise, you'll gain a better understanding of how to create and manage services to expose applications within a Kubernetes cluster. Adjust the exercise based on your specific use case and requirements.