Exercise 3: Create a Pod using a YAML Manifest

1. **Create a YAML file (nginx-pod.yaml):**

```
master@master-vm:~/yaml_manifest$ nano nginx-pod.yaml
```

```
apiVersion: v1
kind: Pod
metadata:
  name: nginx-pod
spec:
  containers:
  - name: nginx
    image: nginx
```

2. **Apply the YAML file:**

```
master@master-vm:~/yaml_manifest$ kubectl apply -f nginx-pod.yaml
pod/nginx-pod created
```

3. **Check if the pod is running:**

```
master@master-vm:~/yaml_manifest$ kubectl get pods
NAME        READY   STATUS    RESTARTS   AGE
nginx-pod   1/1     Running   0          13s
```

4. **Delete the pod using YAML:**

```
master@master-vm:~/yaml_manifest$ kubectl delete -f nginx-pod.yaml
pod "nginx-pod" deleted
master@master-vm:~/yaml_manifest$
```

Exercise 4: Create and Use a ConfigMap

1. **Create a ConfigMap:**

```
master@master-vm:~/configMap$ kubectl create configmap app-config --from-literal=APP_ENV=production
configmap/app-config created
```

2. **Verify ConfigMap:**

```
master@master-vm:~/configMap$ kubectl get configmaps app-config -o yaml
apiVersion: v1
data:
  APP_ENV: production
kind: ConfigMap
metadata:
  creationTimestamp: "2025-03-14T05:00:38Z"
  name: app-config
  namespace: default
  resourceVersion: "5696"
  uid: f0281698-70c2-4a11-a2d8-e45a7a52d895
```

3. **Create a pod that uses the ConfigMap (nginx-config-pod.yaml):**

```
master@master-vm:~/configMap$ nano nginx-config-pod.yaml
```

```
apiVersion: v1
kind: Pod
metadata:
  name: nginx-config-pod
spec:
  containers:
  - name: nginx
    image: nginx
    env:
    - name: APP_ENV
      valueFrom:
        configMapKeyRef:
          name: app-config
          key: APP_ENV
```

4. **Deploy the pod:**

```
master@master-vm:~/configMap$ kubectl apply -f nginx-config-pod.yaml
pod/nginx-config-pod created
```

5. **Check if the pod is running:**

```
master@master-vm:~/configMap$ kubectl get pods
NAME               READY   STATUS    RESTARTS   AGE
nginx-config-pod   1/1     Running   0          13s
```

6. Delete the pod and ConfigMap:

```
master@master-vm:~/configMap$ kubectl delete -f nginx-config-pod.yaml
pod "nginx-config-pod" deleted
master@master-vm:~/configMap$ kubectl delete configmap app-config
configmap "app-config" deleted
master@master-vm:~/configMap$
```