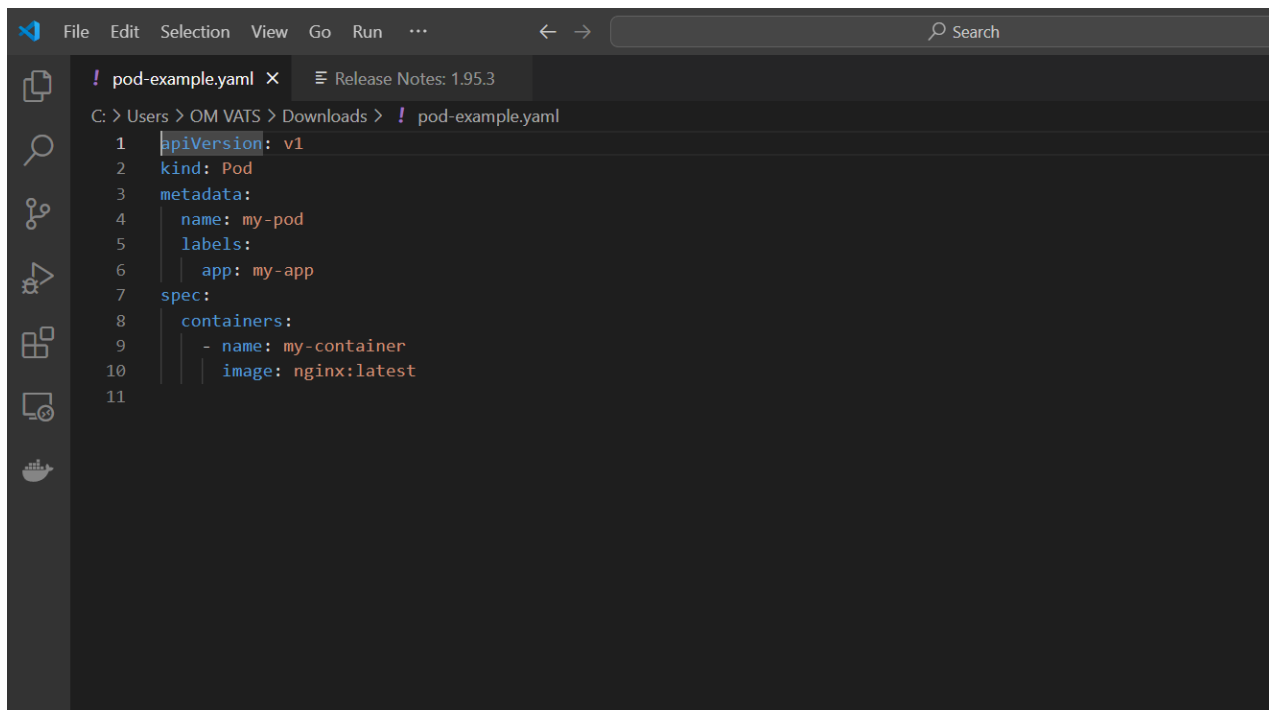# Lab Exercise 6- Create POD in Kubernetes

Objective:

- Understand the basic structure and syntax of a Kubernetes Pod definition file (YAML).
- Learn to create, inspect, and delete a Pod in a Kubernetes cluster.

Step-by-Step Guide

Step 1: Create a YAML File for the Pod

We'll create a Pod configuration file named **pod-example.yaml**

Step 2: Apply the YAML File to Create the Pod

```
C:\Users\OM VATS\Downloads>kubectl apply -f pod-example.yaml
pod/my-pod created

C:\Users\OM VATS\Downloads>kubectl get pods
NAME       READY    STATUS     RESTARTS    AGE
my-pod     1/1      Running    0           37s
```

Step 3: Verify the Pod Creation

```
C:\Users\OM VATS\Downloads>kubectl describe pod my-pod
Name:              my-pod
Namespace:         default
Priority:          0
Service Account:   default
Node:              docker-desktop/192.168.65.3
Start Time:        Wed, 20 Nov 2024 22:48:56 +0530
Labels:            app=my-app
Annotations:       <none>
Status:            Running
IP:                10.1.0.10
IPs:
  IP:  10.1.0.10
Containers:
  my-container:
    Container ID:   docker://1d7c6f6110a5bcfec7f6642e3024780fca2cc4b64ed2f50309f82f3a33f596fe
    Image:          nginx:latest
    Image ID:       docker-pullable://nginx@sha256:bc5eac5eafc581aeda3008b4b1f07ebba230de2f27d47767129a6a905c84f470
    Port:           <none>
    Host Port:      <none>
    State:          Running
      Started:      Wed, 20 Nov 2024 22:49:13 +0530
    Ready:          True
    Restart Count:  0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-qc68c (ro)
Conditions:
  Type                       Status
  PodReadyToStartContainers  True
  Initialized                True
```

Step 4: Interact with the Pod

```
C:\Users\OM VATS\Downloads>kubectl logs my-pod
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2024/11/20 17:19:13 [notice] 1#1: using the "epoll" event method
2024/11/20 17:19:13 [notice] 1#1: nginx/1.27.2
2024/11/20 17:19:13 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2024/11/20 17:19:13 [notice] 1#1: OS: Linux 5.15.153.1-microsoft-standard-WSL2
2024/11/20 17:19:13 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2024/11/20 17:19:13 [notice] 1#1: start worker processes
2024/11/20 17:19:13 [notice] 1#1: start worker process 29
2024/11/20 17:19:13 [notice] 1#1: start worker process 30
2024/11/20 17:19:13 [notice] 1#1: start worker process 31
2024/11/20 17:19:13 [notice] 1#1: start worker process 32
2024/11/20 17:19:13 [notice] 1#1: start worker process 33
2024/11/20 17:19:13 [notice] 1#1: start worker process 34
2024/11/20 17:19:13 [notice] 1#1: start worker process 35
2024/11/20 17:19:13 [notice] 1#1: start worker process 36
2024/11/20 17:19:13 [notice] 1#1: start worker process 37
2024/11/20 17:19:13 [notice] 1#1: start worker process 38
2024/11/20 17:19:13 [notice] 1#1: start worker process 39
2024/11/20 17:19:13 [notice] 1#1: start worker process 40
2024/11/20 17:19:13 [notice] 1#1: start worker process 41
2024/11/20 17:19:13 [notice] 1#1: start worker process 42
2024/11/20 17:19:13 [notice] 1#1: start worker process 43
2024/11/20 17:19:13 [notice] 1#1: start worker process 44
```

```
2024/11/20 17:19:13 [notice] 1#1: start worker process 44

C:\Users\OM VATS\Downloads>kubectl exec -it my-pod -- /bin/bash
root@my-pod:/# exit
exit
```

Step 5: Delete the Pod

```
C:\Users\OM VATS\Downloads>kubectl delete pod my-pod
pod "my-pod" deleted

C:\Users\OM VATS\Downloads>
```