

Implementing Probes and Health Checks

Relevant Documentation

- [Configure Liveness, Readiness and Startup Probes](#)

Exam Tips

- Liveness probes check if a container is healthy so that it can be restarted if it is not.
- Readiness probes check whether a container is fully started up and ready to be used.
- Probes can run a command inside the container, make an HTTP request, or attempt a TCP socket connection to determine container status.

Lesson Reference

Log in to the **control plane node**.

Create a Pod with a liveness probe that checks container health by verifying that the command line responds.

```
vi liveness-pod.yml
```

```
apiVersion: v1
kind: Pod
metadata:
  name: liveness-pod
spec:
  containers:
  - name: busybox
    image: busybox:stable
    command: ['sh', '-c', 'while true; do sleep 10; done']
    livenessProbe:
      exec:
        command: ['echo', 'health check!']
      initialDelaySeconds: 5
      periodSeconds: 5
```

```
kubectl apply -f liveness-pod.yml
```

Check the status of the Pod.

```
kubectl get pod liveness-pod
```

You can see information about a container's liveness probes with `kubectl describe`.

```
kubectl describe pod liveness-pod
```

Create a Pod with a liveness probe and a readiness probe, both of which use an http check.

```
vi readiness-pod.yml
```

```
apiVersion: v1
kind: Pod
metadata:
  name: readiness-pod
spec:
  containers:
  - name: nginx
    image: nginx:1.20.1
    ports:
    - containerPort: 80
    livenessProbe:
      httpGet:
        path: /
        port: 80
      initialDelaySeconds: 3
      periodSeconds: 3
    readinessProbe:
      httpGet:
        path: /
        port: 80
      initialDelaySeconds: 15
      periodSeconds: 5
```

```
kubectl apply -f readiness-pod.yml
```

Check the status of the Pod. Initially, the status will be `Running` but the container will not be ready. Wait a bit and check the Pod status again. Once the readiness probe runs successfully, the container should become ready.

```
kubectl get pod readiness-pod
```