

Step 1 - Creating a Pod with Readiness Probes

Create a YAML File for a Deployment containing 5 replicas

vi liveness-probe.yaml

```
apiVersion: v1
kind: Pod
metadata:
  name: my-readiness-pod
spec:
  containers:
  - name: myapp-container
    image: nginx
    readinessProbe:
      httpGet:
        path: /
        port: 30000
      initialDelaySeconds: 5
      periodSeconds: 5
```

kubectl create -f liveness-probe.yaml

```
root@kubernetes-master:/home/ubuntu# vi liveness-probe.yaml
root@kubernetes-master:/home/ubuntu# kubectl create -f liveness-probe.yaml
pod/my-readiness-pod created
```

Validate if Pod is running correctly

Kubectl get pods

```
root@kubernetes-master:/home/ubuntu# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-readiness-pod    0/1     Running   0           11s
root@kubernetes-master:/home/ubuntu# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-readiness-pod    0/1     Running   0           14s
```

kubectl describe pods

```

[root@kubernetes-master:~/home/ubuntu# kubectl describe pods
Name:         my-readiness-pod
Namespace:    default
Priority:      0
Node:         worker-2/10.1.0.85
Start Time:   Sat, 11 Apr 2020 21:12:41 +0000
Labels:       <none>
Annotations:  <none>
Status:       Running
IP:           10.244.2.37
IPs:          <none>
Containers:
  myapp-container:
    Container ID:   docker://2cb1d0417129edb08e4da9594fb0c5577ae5364d1e4aa6a35d27cfa307f49690
    Image:          nginx
    Image ID:       docker-pullable://nginx@sha256:282530fcb7cd19f3848c7b611043f82ae4be3781cb00105ad593d7e6286b596
    Port:           <none>
    Host Port:      <none>
    State:          Running
      Started:      Sat, 11 Apr 2020 21:12:43 +0000
    Ready:          False
    Restart Count:  0
    Readiness:      http-get http://:30000/ delay=5s timeout=1s period=5s #success=1 #failure=3
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from default-token-95986 (ro)
Conditions:
  Type              Status
  Initialized        True
  Ready             False
  ContainersReady    False
  PodScheduled       True
Volumes:
  default-token-95986:
    Type: Secret (a volume populated by a Secret)
    SecretName: default-token-95986
    Optional: false
QoS Class: BestEffort
Node-Selectors: <none>
Tolerations: node.kubernetes.io/not-ready:NoExecute for 300s
               node.kubernetes.io/unreachable:NoExecute for 300s
Events:
  Type Reason Age From Message
  ---
  Normal Scheduled 10s kubelet, worker-2 Successfully assigned default/my-readiness-pod to worker-2
  Normal Pulling 23s kubelet, worker-2 Pulling image "nginx"
  Normal Pulled 23s kubelet, worker-2 Successfully pulled image "nginx"
  Normal Created 3s kubelet, worker-2 Created container myapp-container
  Normal Started 0s kubelet, worker-2 Started container myapp-container
  Warning Unhealthy 3s (x4 over 13s) kubelet, worker-2 Readiness probe failed: Get http://10.244.2.37:30000/: dial tcp 10.244.2.37:30000: connect: connection refused

```

Do you see the error?

Look for this warning

Warning Unhealthy 2s (x4 over 17s) kubelet, worker-2 Readiness probe failed: Get http://10.244.2.37:30000/: dial tcp 10.244.2.37:30000: connect: connection refused

Step 2 - Modify Readiness Probes

kubectl delete pod my-readiness-pod

```
root@kubernetes-master:/home/ubuntu# kubectl delete pod my-readiness-pod
pod "my-readiness-pod" deleted
```

Modify YAML File as follows

vi liveness-probe.yaml

```
apiVersion: v1
kind: Pod
metadata:
  name: my-readiness-pod
spec:
  containers:
  - name: myapp-container
    image: nginx
    readinessProbe:
      httpGet:
        path: /
        port: 80
      initialDelaySeconds: 5
      periodSeconds: 5
```

Create Pod again

kubectl create -f liveness-probe.yaml

Validate if pod is running correctly

```
root@kubernetes-master:/home/ubuntu# kubectl create -f liveness-probe.yaml
pod/my-readiness-pod created
root@kubernetes-master:/home/ubuntu# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-readiness-pod    0/1     Running   0           5s
root@kubernetes-master:/home/ubuntu# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-readiness-pod    0/1     Running   0           6s
root@kubernetes-master:/home/ubuntu# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-readiness-pod    0/1     Running   0           8s
root@kubernetes-master:/home/ubuntu# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-readiness-pod    0/1     Running   0           9s
```

Look deeper inside the Pod why is running correctly

```
kubectl describe pods
```

```

root@kubernetes-master:/home/ubuntu# kubectl describe pods
Name:         my-readiness-pod
Namespace:    default
Priority:      0
Node:         worker-2/10.1.0.85
Start Time:   Sat, 11 Apr 2020 21:14:05 +0000
Labels:       <none>
Annotations:  <none>
Status:       Running
IP:           10.244.2.38
IPs:          [IP: 10.244.2.38]
Containers:
  myapp-container:
    Container ID:  docker://bb5be4f4e29d836f370eb42154bf9550699bccf87e4f3655cccd7712d40845b44
    Image:         nginx
    Image ID:      docker-pullable://nginx@sha256:282530fc7cd19f3848c7b611043f82ae4be3781cb00105ad593d7e6286b596
    Port:          80/TCP
    Host Port:     80/TCP
    State:         Running
    Started:       Sat, 11 Apr 2020 21:14:07 +0000
    Ready:         True
    Restart Count: 0
    Readiness:     http get http://80/ delay=5s timeout=1s period=5s #success=1 #failure=3
    Environment:   <none>
    Mounts:        /home/ubuntu
Conditions:
  Type             Status
  Initialized       True
  Ready            True
  ContainersReady  True
  PodScheduled     True
Volumes:
  default-token-95986:
    Type: Secret (a volume populated by a Secret)
    SecretName: default-token-95986
    Optional: false
QoS Class: BestEffort
Node-Selectors: <none>
Tolerations: node.kubernetes.io/not-ready:NoExecute for 300s
               node.kubernetes.io/unreachable:NoExecute for 300s
Events:
  Type Reason Age From Message
  ---
  Normal Scheduled 16s kubelet, worker-2 Successfully assigned default/my-readiness-pod to worker-2
  Normal Pulling 16s kubelet, worker-2 Pulling image "nginx"
  Normal Pulled 15s kubelet, worker-2 Successfully pulled image "nginx"
  Normal Created 15s kubelet, worker-2 Created container myapp-container
  Normal Started 15s kubelet, worker-2 Started container myapp-container
root@kubernetes-master:/home/ubuntu#

```

Step 3 - Delete the Pod

```
kubectl delete pod my-readiness-pod
```

```
root@kubernetes-master:~/home/ubuntu# kubectl delete pod my-readiness-pod
pod "my-readiness-pod" deleted
```