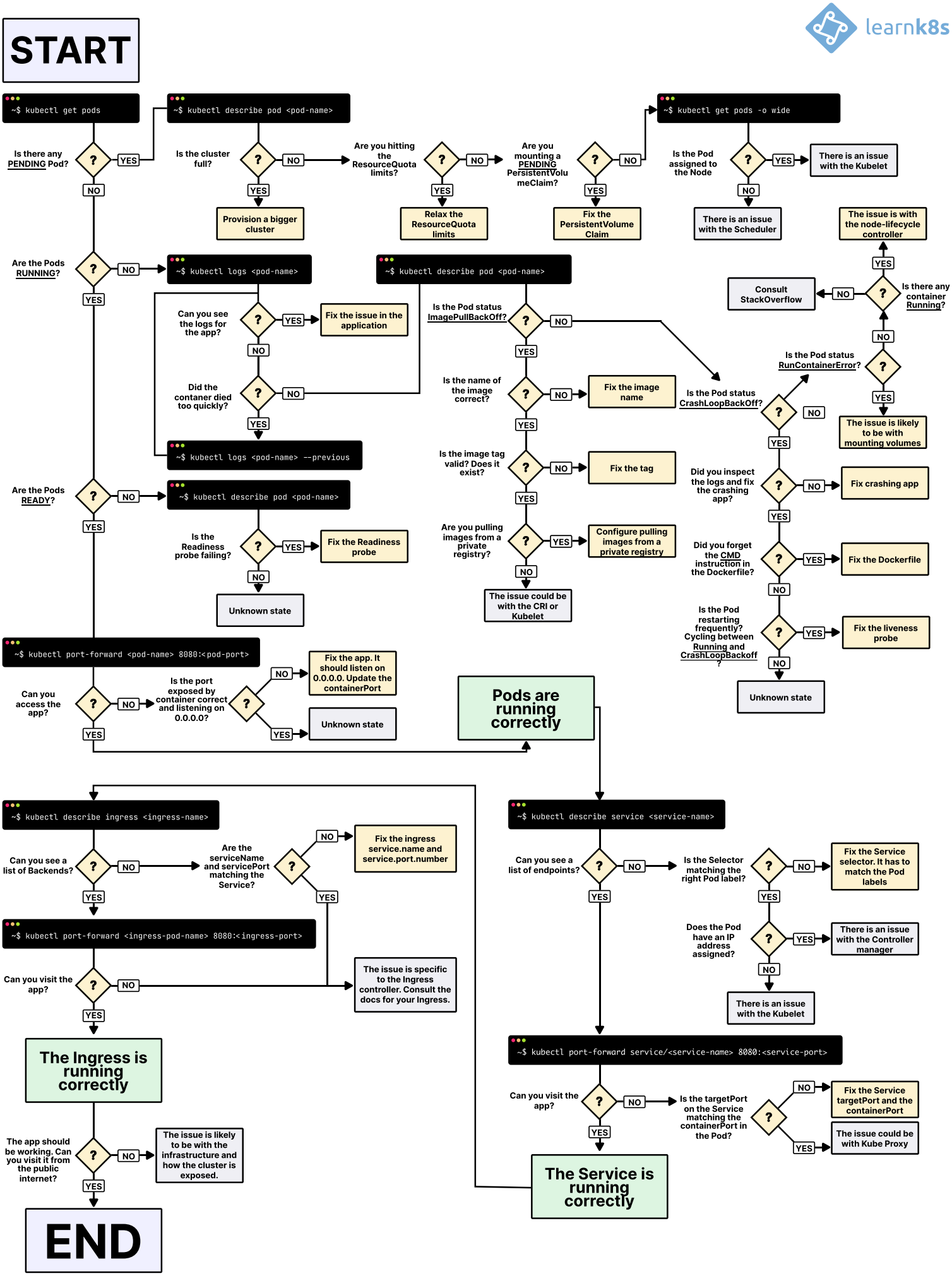
learnk8s
START
~$ kubectl get pods
Is there any PENDING Pod?
YES
NO
~$ kubectl describe pod <pod-name>
Is the cluster full?
Provision a bigger cluster
Are you hitting the ResourceQuota limits?
Relax the ResourceQuota limits
Are you mounting a PENDING PersistentVolumeClaim?
Fix the PersistentVolume Claim
~$ kubectl get pods -o wide
Is the Pod assigned to the Node
There is an issue with the Kubelet
There is an issue with the Scheduler
Are the Pods RUNNING?
~$ kubectl logs <pod-name>
Can you see the logs for the app?
Fix the issue in the application
Did the contaner died too quickly?
~$ kubectl logs <pod-name> --previous
~$ kubectl describe pod <pod-name>
Is the Pod status ImagePullBackOff?
Is the name of the image correct?
Fix the image name
Is the image tag valid? Does it exist?
Fix the tag
Are you pulling images from a private registry?
Configure pulling images from a private registry
The issue could be with the CRI or Kubelet
Is the Pod status CrashLoopBackOff?
Is the Pod status RunContainerError?
Is there any container Running?
Consult StackOverflow
The issue is with the node-lifecycle controller
The issue is likely to be with mounting volumes
Did you inspect the logs and fix the crashing app?
Fix crashing app
Did you forget the CMD instruction in the Dockerfile?
Fix the Dockerfile
Is the Pod restarting frequently? Cycling between Running and CrashLoopBackoff?
Fix the liveness probe
Unknown state
Are the Pods READY?
~$ kubectl describe pod <pod-name>
Is the Readiness probe failing?
Fix the Readiness probe
Unknown state
~$ kubectl port-forward <pod-name> 8080:<pod-port>
Can you access the app?
Is the port exposed by container correct and listening on 0.0.0.0?
Fix the app. It should listen on 0.0.0.0. Update the containerPort
Unknown state
Pods are running correctly
~$ kubectl describe ingress <ingress-name>
Can you see a list of Backends?
Are the serviceName and servicePort matching the Service?
Fix the ingress service.name and service.port.number
~$ kubectl port-forward <ingress-pod-name> 8080:<ingress-port>
Can you visit the app?
The issue is specific to the Ingress controller. Consult the docs for your Ingress.
The Ingress is running correctly
The app should be working. Can you visit it from the public internet?
The issue is likely to be with the infrastructure and how the cluster is exposed.
END
~$ kubectl describe service <service-name>
Can you see a list of endpoints?
Is the Selector matching the right Pod label?
Fix the Service selector. It has to match the Pod labels
Does the Pod have an IP address assigned?
There is an issue with the Controller manager
There is an issue with the Kubelet
~$ kubectl port-forward service/<service-name> 8080:<service-port>
Can you visit the app?
Is the targetPort on the Service matching the containerPort in the Pod?
Fix the Service targetPort and the containerPort
The issue could be with Kube Proxy
The Service is running correctly