# Startup probe

1. Get familiar with pods/probes/probe-startup-task.yaml.
2. Start Pod and check the its status. It should not be ready:

$ kubectl create -f pods/probes/probe-startup-task.yaml  
pod/probe-startup-task  
  
$ kubectl get events -w | grep -i probe-startup-task  
> kubectl get events -w | findstr /i probe-startup-task  
  
0s Normal Scheduled pod/probe-startup-task Successfully assigned msuslov/probe-startup-task to minikube  
0s Normal Pulled pod/probe-startup-task Container image "bash" already present on machine  
0s Normal Created pod/probe-startup-task Created container bash  
0s Normal Started pod/probe-startup-task Started container bash  
0s Warning Unhealthy pod/probe-startup-task Startup probe failed:

1. Add Startup Probe’s exec handler:

startupProbe:  
 exec:  
 command:  
 - /bin/sh  
 - -c  
 - |  
 source /app/echotime.sh  
 if [ ! -e /tmp/startup ]; then  
 echotime Startup FAILED >> /app/my.log  
 exit 1  
 fi  
 echotime Startup OK >> /app/my.log  
 exit 0

1. Tune probe’s parameters for different test cases:

| initialDelaySeconds | failureThreshold | periodSeconds |
| --- | --- | --- |
| 0 | 4 | 3 |
| 0 | 4 | 2 |

What are expected results?

1. Start Pod (kubectl create) and check the its logs (kubectl logs) and events.

What’s changed?

## Solution

1. Start Pod and check the its status. It should not be ready:

$ kubectl create -f pods/probes/probe-startup-task.yaml  
pod/probe-startup-task  
  
$ kubectl get pods -w  
NAME READY STATUS RESTARTS AGE  
command-continuous 1/1 Running 0 86m  
probe-startup-task 0/1 Pending 0 0s  
probe-startup-task 0/1 Pending 0 0s  
probe-startup-task 0/1 ContainerCreating 0 0s  
probe-startup-task 0/1 Running 0 2s  
  
$ kubectl get events -w | grep -i probe-startup-task  
0s Normal Scheduled pod/probe-startup-task Successfully assigned msuslov/probe-startup-task to minikube  
0s Normal Pulled pod/probe-startup-task Container image "bash" already present on machine  
0s Normal Created pod/probe-startup-task Created container bash  
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What are expected results?

Case 1: Delay is 0+4*3=12 seconds. Probe should be successful. Case 2: Delay is 0+4*2=8 seconds. Probe should be failed.

1. Start Pod (kubectl create) and check the its logs (kubectl logs) and events.

Case 1:

$ kubectl logs probe-startup-task -f  
2021.06.11 10:40:38 Starting  
2021.06.11 10:40:42 Startup FAILED  
2021.06.11 10:40:45 Startup FAILED  
2021.06.11 10:40:48 Startup FAILED  
2021.06.11 10:40:48 --> Started!  
2021.06.11 10:40:51 Startup OK  
  
$ kubectl get pods -w  
probe-startup-task 0/1 Pending 0 0s  
probe-startup-task 0/1 Pending 0 0s  
probe-startup-task 0/1 ContainerCreating 0 0s  
probe-startup-task 0/1 Running 0 2s  
probe-startup-task 0/1 Running 0 14s  
probe-startup-task 1/1 Running 0 75s  
  
$ kubectl get events -w | grep -i probe-startup-task  
0s Normal Scheduled pod/probe-startup-task Successfully assigned msuslov/probe-startup-task to minikube  
0s Normal Pulled pod/probe-startup-task Container image "bash" already present on machine  
0s Normal Created pod/probe-startup-task Created container bash  
0s Normal Started pod/probe-startup-task Started container bash  
0s Warning Unhealthy pod/probe-startup-task Startup probe failed:  
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Case 2:

$ kubectl logs probe-startup-task -f  
2021.06.11 10:43:25 Starting  
2021.06.11 10:43:26 Startup FAILED  
2021.06.11 10:43:29 Startup FAILED  
2021.06.11 10:43:31 Startup FAILED  
2021.06.11 10:43:33 Startup FAILED  
2021.06.11 10:43:35 --> Started!  
got TERM but ignored  
2021.06.11 10:44:42 Bye  
  
$ kubectl get pods -w  
probe-startup-task 0/1 Pending 0 0s  
probe-startup-task 0/1 Pending 0 0s  
probe-startup-task 0/1 ContainerCreating 0 0s  
probe-startup-task 0/1 Running 0 2s  
probe-startup-task 0/1 Completed 0 80s  
  
$ kubectl get events -w | grep -i probe-startup-task  
0s Normal Scheduled pod/probe-startup-task Successfully assigned msuslov/probe-startup-task to minikube  
0s Normal Pulled pod/probe-startup-task Container image "bash" already present on machine  
0s Normal Created pod/probe-startup-task Created container bash  
0s Normal Started pod/probe-startup-task Started container bash  
0s Warning Unhealthy pod/probe-startup-task Startup probe failed:  
0s Normal Killing pod/probe-startup-task Stopping container bash

What’s changed?

When the startup probe failed, pod is terminated. Unfortunately there is no message about succeeded probes.

Clean up:

$ kubectl delete -f pods\probes\probe-startup-task.yaml  
pod "probe-startup-task" deleted