Chaos Engineering Report

03 December 2019

Contents

Summary

This report aggregates 1 experiments spanning over the following subjects:

kubernetes, *service*, *spring*

Experiment

My application is resilient to admin-instigated node drainage

Can my application maintain its minimum resources?

Summary

Status	completed
Tagged	service, kubernetes, spring
Executed From	C02W20LAHV2V
Platform	Darwin-18.7.0-x86_64-i386-64bit
Started	Tue, 03 Dec 2019 15:25:39 GMT
Completed	Tue, 03 Dec 2019 15:25:39 GMT
Duration	0 seconds

Definition

The experiment was made of 1 actions, to vary conditions in your system, and 0 probes, to collect objective data from your system during the experiment.

Steady State Hypothesis   The steady state hypothesis this experiment tried was "**Services are all available and healthy**".

Before Run   The steady state was verified

Probe	Tolerance	Verified
application-must-respond-normally	200	True
pods_in_phase	True	True
count-pods	True	True

After Run   The steady state was verified

Probe	Tolerance	Verified
application-must-respond-normally	200	True
pods_in_phase	True	True
count-pods	True	True

Method   The experiment method defines the sequence of activities that help gathering evidence towards, or against, the hypothesis.

The following activities were conducted as part of the experimental's method:

Type	Name
action	stop-service

Result

The experiment was conducted on Tue, 03 Dec 2019 15:25:39 GMT and lasted roughly 0 seconds.

Action - stop-service

Status	failed
Background	False
Started	Tue, 03 Dec 2019 15:25:39 GMT
Ended	Tue, 03 Dec 2019 15:25:39 GMT
Duration	0 seconds

The action provider that was executed:

Type	python
Module	chaosk8s.actions
Function	kill_microservice
Arguments	{'name': 'app=sample-app-deployment', 'ns': 'default', 'label_selector': 'app=sample-app-deployment'}

The *stop-service* action raised the following error while running:

```
Traceback (most recent call last):
  File
"/usr/local/lib/python3.7/site-packages/chaoslib/provider/python.py",
line 55, in run_python_activity
    return func(**arguments)
  File
"/usr/local/lib/python3.7/site-packages/chaosk8s/actions.py", line 57,
in kill_microservice
    ret = v1.list_namespaced_deployment(ns,
label_selector=label_selector)
  File "/usr/local/lib/python3.7/site-
packages/kubernetes/client/apis/apps_v1beta1_api.py", line 1754, in
list_namespaced_deployment
    (data) =
self.list_namespaced_deployment_with_http_info(namespace, **kwargs)
```

```
File "/usr/local/lib/python3.7/site-
packages/kubernetes/client/apis/apps_v1beta1_api.py", line 1854, in
list_namespaced_deployment_with_http_info
collection_formats=collection_formats)
  File
"/usr/local/lib/python3.7/site-
packages/kubernetes/client/api_client.py", line 334, in call_api
_return_http_data_only, collection_formats, _preload_content,
_request_timeout)
  File "/usr/local/lib/python3.7/site-
packages/kubernetes/client/api_client.py", line 168, in __call_api
_request_timeout=_request_timeout)
  File
"/usr/local/lib/python3.7/site-
packages/kubernetes/client/api_client.py", line 355, in request
headers=headers)
  File "/usr/local/lib/python3.7/site-
packages/kubernetes/client/rest.py", line 231, in GET
query_params=query_params)
  File "/usr/local/lib/python3.7/site-
packages/kubernetes/client/rest.py", line 222, in request
    raise
ApiException(http_resp=r)
kubernetes.client.rest.ApiException: (404)
Reason: Not Found
HTTP response headers: HTTPHeaderDict({'Cache-
Control': 'no-cache, private', 'Content-Type': 'application/json',
'Date': 'Tue, 03 Dec 2019 15:25:39 GMT', 'Content-Length': '174'})
HTTP response body:
{"kind":"Status","apiVersion":"v1","metadata":{},"status":"Failure","message":"the
server could not find the requested
resource","reason":"NotFound","details":{},"code":404}


During
handling of the above exception, another exception occurred:
chaoslib.exceptions.ActivityFailed:
kubernetes.client.rest.ApiException: (404)
Reason: Not Found
HTTP
response headers: HTTPHeaderDict({'Cache-Control': 'no-cache,
private', 'Content-Type': 'application/json', 'Date': 'Tue, 03 Dec
2019 15:25:39 GMT', 'Content-Length': '174'})
HTTP response body:
{"kind":"Status","apiVersion":"v1","metadata":{},"status":"Failure","message":"the
```

```
server could not find the requested
resource","reason":"NotFound","details":{},"code":404}
```

Appendix

Action - stop-service   The *action* returned the following result:

```
None
```