

Chaos Engineering Report

25 February 2021

Contents

| | |
|---|----------|
| Summary | 2 |
| Experiment | 3 |
| What are the possibility's of using the Chaos Toolkit in OpenShift at | |
| DUO | 3 |
| Summary | 3 |
| Definition | 3 |
| Result | 4 |
| Appendix | 6 |

Summary

This report aggregates 1 experiments spanning over the following subjects:

kubernetes

Experiment

What are the possibility's of using the Chaos Toolkit in OpenShift at DUO

Check what parts of the Chaos Toolkit are usable on the platform of DUO

Summary

| | |
|----------------------|---|
| Status | completed |
| Tagged | kubernetes |
| Executed From | chaos-toolkit-test-79cdb9fc78-4btmc |
| Platform | Linux-4.18.0-193.29.1.el8_2.x86_64-x86_64-with-redhat-8.3-Ootpa |
| Started | Thu, 25 Feb 2021 13:32:02 GMT |
| Completed | Thu, 25 Feb 2021 13:32:03 GMT |
| Duration | 1 second |

Definition

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

Steady State Hypothesis

The steady state hypothesis this experiment tried was “**Verifying services are healthy and pod accepts api request**”.

Before Run

The steady state was verified

| Probe | Tolerance | Verified |
|------------------------|-----------|----------|
| service-is-initialized | True | True |

After Run

The steady state was verified

| Probe | Tolerance | Verified |
|------------------------|-----------|----------|
| service-is-initialized | 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 |
|-------|----------------------------------|
| probe | deployment_available_and_healthy |

Result

The experiment was conducted on Thu, 25 Feb 2021 13:32:02 GMT and lasted roughly 1 second.

Probe - deployment_available_and_healthy

| | |
|-------------------|-------------------------------|
| Status | failed |
| Background | False |
| Started | Thu, 25 Feb 2021 13:32:02 GMT |
| Ended | Thu, 25 Feb 2021 13:32:03 GMT |
| Duration | 1 second |

The probe provider that was executed:

| | |
|------------------|--|
| Type | python |
| Module | chaosk8s.deployment.probes |
| Function | deployment_available_and_healthy |
| Arguments | {'name': 'in727san-ta-wiremock', 'label_selector': 'app=ta-wiremock', 'ns': 'cmst-test'} |

The *deployment_available_and_healthy* probe raised the following error while running:

```
Traceback (most recent call last):
  File "/usr/local/lib/python3.6/site-packages/chaoslib/provider/python.py", line 55, in run_python_activity
    return func(**arguments)
  File "/usr/local/lib/python3.6/site-packages/chaosk8s/deployment/probes.py", line 38, in deployment_available_and_healthy
    label_selector=label_selector)
  File "/usr/local/lib/python3.6/site-packages/kubernetes/client/api/apps_v1_api.py", line 3269, in list_namespaced_deployment
    return self.list_namespaced_deployment_with_http_info(namespace,
```

```

**kwargs) # noqa: E501
    File "/usr/local/lib/python3.6/site-
packages/kubernetes/client/api/apps_v1_api.py", line 3394, in
list_namespaced_deployment_with_http_info
    collection_formats=collection_formats)
    File "/usr/local/lib/python3.6/site-
packages/kubernetes/client/api_client.py", line 353, in call_api
        _preload_content, _request_timeout, _host)
    File "/usr/local/lib/python3.6/site-
packages/kubernetes/client/api_client.py", line 184, in __call_api
        _request_timeout=_request_timeout)
    File "/usr/local/lib/python3.6/site-
packages/kubernetes/client/api_client.py", line 377, in request
        headers=headers)
    File "/usr/local/lib/python3.6/site-
packages/kubernetes/client/rest.py", line 243, in GET
        query_params=query_params)
    File "/usr/local/lib/python3.6/site-
packages/kubernetes/client/rest.py", line 233, in request
        raise ApiException(http_resp=r)
kubernetes.client.exceptions.ApiException: (403)
Reason: Forbidden
HTTP response headers: HTTPHeaderDict({'Audit-Id':
'13a299f4-cb0b-4fe3-9ff7-13db96e94651', 'Cache-Control': 'no-cache,
private', 'Content-Type': 'application/json', 'X-Content-Type-
Options': 'nosniff', 'X-Kubernetes-Pf-Flowschema-Uid':
'12514990-4cc8-4d9b-9d51-f0ba95b70a4d', 'X-Kubernetes-Pf-
Prioritylevel-Uid': 'd492cebf-0100-4286-9409-b05e9f326f7e', 'Date':
'Thu, 25 Feb 2021 13:32:02 GMT', 'Content-Length': '386'})
HTTP response body:
{"kind":"Status","apiVersion":"v1","metadata":{},"status":"Failure","message":"deployments.a
\\\"in727san-ta-wiremock\\\" is forbidden: User
\\\"system:serviceaccount:cmst-test:default\\\" cannot list resource
\\\"deployments\\\" in API group \\\"apps\\\" in the namespace \\\"cmst-
test\\\"","reason":"Forbidden","details":{"name":"in727san-ta-
wiremock","group":"apps","kind":"deployments"},"code":403}

```

During handling of the above exception, another exception occurred:

```

chaoslib.exceptions.ActivityFailed:
kubernetes.client.exceptions.ApiException: (403)
Reason: Forbidden
HTTP response headers: HTTPHeaderDict({'Audit-Id':
'13a299f4-cb0b-4fe3-9ff7-13db96e94651', 'Cache-Control': 'no-cache,

```

```
private', 'Content-Type': 'application/json', 'X-Content-Type-Options': 'nosniff', 'X-Kubernetes-Pf-Flowschema-Uid': '12514990-4cc8-4d9b-9d51-f0ba95b70a4d', 'X-Kubernetes-Pf-Prioritylevel-Uid': 'd492cebf-0100-4286-9409-b05e9f326f7e', 'Date': 'Thu, 25 Feb 2021 13:32:02 GMT', 'Content-Length': '386'})
```

HTTP response body:

```
{"kind": "Status", "apiVersion": "v1", "metadata": {}, "status": "Failure", "message": "deployments.\n\\\"in727san-ta-wiremock\\\" is forbidden: User\n\\\"system:serviceaccount:cmst-test:default\\\" cannot list resource\n\\\"deployments\\\" in API group \\\"apps\\\" in the namespace \\\"cmst-test\\\"", "reason": "Forbidden", "details": {"name": "in727san-ta-wiremock", "group": "apps", "kind": "deployments"}, "code": 403}
```

Appendix

Probe - deployment__available__and__healthy

The *probe* returned the following result:

None