Chaos Engineering Report

07 September 2019

Contents

Summary

This report aggregates 2 experiments spanning over the following subjects:

ecs, frontend, aws, docker

Experiments

Terminate the Frontend service should not prevent application from running

Our architecture does not have any dependency with the Frontend.

Summary

Status	completed
Tagged	frontend, aws, ecs, docker
Executed From	Jorges-MacBook-Pro.local
Platform	Darwin-18.7.0-x86_64-i386-64bit
Started	Sat, 07 Sep 2019 11:47:09 GMT
Completed	Sat, 07 Sep 2019 11:47:16 GMT
Duration	7 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
applications-should-be-alive-and-healthy	{'target': 'stdout', 'type': 'range', 'range': [2, 3]}	True
api-must-respond	200	True

After Run

The steady state was verified

Probe	Tolerance	Verified
applications-should-be-alive-and-healthy	{'target': 'stdout', 'type': 'range', 'range': [2, 3]}	True
api-must-respond	200	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-frontend-service

Result

The experiment was conducted on Sat, 07 Sep 2019 11:47:09 GMT and lasted roughly 7 seconds.

Action - stop-frontend-service

Status	succeeded
Background	False
Started	Sat, 07 Sep 2019 11:47:11 GMT
Ended	Sat, 07 Sep 2019 11:47:12 GMT
Duration	1 second
Paused After	2s

The action provider that was executed:

Type	process
Path	bash
Timeout	N/A
Arguments	['./stop.sh', 'blog']

Appendix

Action - stop-frontend-service

The *action* returned the following result:

```
{'status': 0, 'stderr': '', 'stdout': '73c027a02365\n'}
```

Terminate the reverse-proxy service should not prevent application from running

Our services should not be reachable from the internet but should be running

Summary

Status	completed
Tagged	frontend, aws, ecs, docker
Executed From	Jorges-MacBook-Pro.local
Platform	Darwin-18.7.0-x86_64-i386-64bit
Started	Sat, 07 Sep 2019 11:49:46 GMT
Completed	Sat, 07 Sep 2019 11:50:01 GMT
Duration	15 seconds

Definition

The experiment was made of 1 actions, to vary conditions in your system, and 2 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
applications-should-be-alive-and-healthy	{'target': 'stdout', 'type': 'range', 'range': [2, 3]}	True

After Run

The steady state was verified

Probe	Tolerance	Verified
applications-should-be-alive-and-healthy	{'target': 'stdout', 'type': 'range', 'range': [2, 3]}	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-nginx-service
probe	api-must-respond
probe	frontend-must-respond

Result

The experiment was conducted on Sat, 07 Sep 2019 11:49:46 GMT and lasted roughly 15 seconds.

Action - stop-nginx-service

Status	succeeded
Background	False
Started	Sat, 07 Sep 2019 11:49:46 GMT
Ended	Sat, 07 Sep 2019 11:49:58 GMT
Duration	12 seconds
Paused After	2s

The action provider that was executed:

Type	process
Path	bash
Timeout	N/A
Arguments	['./stop.sh', 'nginx']

Probe - api-must-respond

Status	failed
Background	False
Started	Sat, 07 Sep 2019 11:50:00 GMT
Ended	Sat, 07 Sep 2019 11:50:00 GMT
Duration	0 seconds

The probe provider that was executed:

Type	http
URL	${api}
Method	GET
Timeout	N/A
Arguments	N/A

The *api-must-respond* probe raised the following error while running:

```
Traceback (most recent call last):
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connection.py", line
159, in _new_conn
    (self._dns_host, self.port), self.timeout,
**extra_kw)
  File "/miniconda3/lib/python3.7/site-
packages/urllib3/util/connection.py", line 80, in create_connection
raise err
  File "/miniconda3/lib/python3.7/site-
packages/urllib3/util/connection.py", line 70, in create_connection
sock.connect(sa)
ConnectionRefusedError: [Errno 61] Connection refused
During handling of the above exception, another exception occurred:
Traceback (most recent call last):
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 600, in urlopen
    chunked=chunked)
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 343, in _make_request
    self._validate_conn(conn)
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 839, in _validate_conn
    conn.connect()
```

```
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connection.py", line
301, in connect
    conn = self._new_conn()
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connection.py", line
168, in _new_conn
    self, "Failed to establish a new connection: %s"
% e)
urllib3.exceptions.NewConnectionError:
<urllib3.connection.VerifiedHTTPSConnection object at 0x103229890>:
Failed to establish a new connection: [Errno 61] Connection refused
During handling of the above exception, another exception occurred:
Traceback (most recent call last):
  File
"/miniconda3/lib/python3.7/site-packages/requests/adapters.py", line
449, in send
    timeout=timeout
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 638, in urlopen
    _stacktrace=sys.exc_info()[2])
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/util/retry.py", line
398, in increment
    raise MaxRetryError(_pool, url, error or
ResponseError(cause))
urllib3.exceptions.MaxRetryError:
HTTPSConnectionPool(host='api.jorgechato.com', port=443): Max retries
exceeded with url: /v1/projects (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object
at 0x103229890>: Failed to establish a new connection: [Errno 61]
Connection refused'))

During handling of the above exception, another
exception occurred:

Traceback (most recent call last):
  File
"/usr/local/lib/python3.7/site-packages/chaoslib/provider/http.py",
line 53, in run_http_activity
    verify=verify_tls)
  File
"/miniconda3/lib/python3.7/site-packages/requests/sessions.py", line
546, in get
    return self.request('GET', url, **kwargs)
```

```
  File
"/miniconda3/lib/python3.7/site-packages/requests/sessions.py", line
533, in request
    resp = self.send(prep, **send_kwargs)
  File
"/miniconda3/lib/python3.7/site-packages/requests/sessions.py", line
646, in send
    r = adapter.send(request, **kwargs)
  File
"/miniconda3/lib/python3.7/site-packages/requests/adapters.py", line
516, in send
    raise ConnectionError(e, request=request)
requests.exceptions.ConnectionError:
HTTPSConnectionPool(host='api.jorgechato.com', port=443): Max retries
exceeded with url: /v1/projects (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object
at 0x103229890>: Failed to establish a new connection: [Errno 61]
Connection refused'))

During handling of the above exception, another
exception occurred:

chaoslib.exceptions.ActivityFailed: failed to
connect to https://api.jorgechato.com/v1/projects:
HTTPSConnectionPool(host='api.jorgechato.com', port=443): Max retries
exceeded with url: /v1/projects (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object
at 0x103229890>: Failed to establish a new connection: [Errno 61]
Connection refused'))
```

Probe - frontend-must-respond

Status	failed
Background	False
Started	Sat, 07 Sep 2019 11:50:00 GMT
Ended	Sat, 07 Sep 2019 11:50:00 GMT
Duration	0 seconds

The probe provider that was executed:

Type	http
URL	${frontend}
Method	GET
Timeout	N/A

Arguments   N/A

The *frontend-must-respond* probe raised the following error while running:

```
Traceback (most recent call last):
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connection.py", line
159, in _new_conn
    (self._dns_host, self.port), self.timeout,
**extra_kw)
  File "/miniconda3/lib/python3.7/site-
packages/urllib3/util/connection.py", line 80, in create_connection
raise err
  File "/miniconda3/lib/python3.7/site-
packages/urllib3/util/connection.py", line 70, in create_connection
sock.connect(sa)
ConnectionRefusedError: [Errno 61] Connection refused
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line 600, in urlopen
    chunked=chunked)
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 343, in _make_request
    self._validate_conn(conn)
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 839, in _validate_conn
    conn.connect()
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connection.py", line
301, in connect
    conn = self._new_conn()
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connection.py", line
168, in _new_conn
    self, "Failed to establish a new connection: %s"
% e)
urllib3.exceptions.NewConnectionError:
<urllib3.connection.VerifiedHTTPSConnection object at 0x1032ec110>:
Failed to establish a new connection: [Errno 61] Connection refused
During handling of the above exception, another exception occurred:
Traceback (most recent call last):
```

```
  File
"/miniconda3/lib/python3.7/site-packages/requests/adapters.py", line
449, in send
    timeout=timeout
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/connectionpool.py",
line 638, in urlopen
    _stacktrace=sys.exc_info()[2])
  File
"/miniconda3/lib/python3.7/site-packages/urllib3/util/retry.py", line
398, in increment
    raise MaxRetryError(_pool, url, error or
ResponseError(cause))
urllib3.exceptions.MaxRetryError:
HTTPSConnectionPool(host='blog.whereisjorge.today', port=443): Max
retries exceeded with url: / (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object
at 0x1032ec110>: Failed to establish a new connection: [Errno 61]
Connection refused'))

During handling of the above exception, another
exception occurred:

Traceback (most recent call last):
  File
"/usr/local/lib/python3.7/site-packages/chaoslib/provider/http.py",
line 53, in run_http_activity
    verify=verify_tls)
  File
"/miniconda3/lib/python3.7/site-packages/requests/sessions.py", line
546, in get
    return self.request('GET', url, **kwargs)
  File
"/miniconda3/lib/python3.7/site-packages/requests/sessions.py", line
533, in request
    resp = self.send(prep, **send_kwargs)
  File
"/miniconda3/lib/python3.7/site-packages/requests/sessions.py", line
646, in send
    r = adapter.send(request, **kwargs)
  File
"/miniconda3/lib/python3.7/site-packages/requests/adapters.py", line
516, in send
    raise ConnectionError(e, request=request)
requests.exceptions.ConnectionError:
HTTPSConnectionPool(host='blog.whereisjorge.today', port=443): Max
```

```
retries exceeded with url: / (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object
at 0x1032ec110>: Failed to establish a new connection: [Errno 61]
Connection refused'))

During handling of the above exception, another
exception occurred:

chaoslib.exceptions.ActivityFailed: failed to
connect to https://blog.whereisjorge.today/:
HTTPSConnectionPool(host='blog.whereisjorge.today', port=443): Max
retries exceeded with url: / (Caused by
NewConnectionError('<urllib3.connection.VerifiedHTTPSConnection object
at 0x1032ec110>: Failed to establish a new connection: [Errno 61]
Connection refused'))
```

Appendix

Action - stop-nginx-service

The *action* returned the following result:

```
{'status': 0, 'stderr': '', 'stdout': 'e7b48cbab98b\n'}
```

Probe - api-must-respond

The *probe* returned the following result:

```
None
```

Probe - frontend-must-respond

The *probe* returned the following result:

```
None
```