

# Chaos Engineering Report

22 September 2025

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## **Summary**

This report aggregates 1 experiments spanning over the following subjects:

## Experiment

### MongoDB bandwidth toxic via chaostoxi

This experiment injects a bandwidth degradation toxic into the MongoDB proxy using chaostoxi to simulate reduced database throughput and observe the impact on the microservices.

#### Summary

<b>Status</b>	completed
<b>Tagged</b>	
<b>Executed From</b>	338331afb042
<b>Platform</b>	Linux-6.15.11-orbstack-00539-g9885ebd8e3f4-x86_64-with-glibc2.41
<b>Started</b>	Mon, 22 Sep 2025 08:23:06 GMT
<b>Completed</b>	Mon, 22 Sep 2025 08:23:07 GMT
<b>Duration</b>	1 second

#### Definition

The experiment was made of 3 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 healthy**”.

**Before Run** The steady state was verified

Probe	Tolerance	Verified
order-api-200	200	True
notifier-200	200	True

**After Run** The steady state was verified

Probe	Tolerance	Verified
order-api-200	200	True
notifier-200	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	add-bw-mongo
action	create-order
action	remove-bw-mongo

## Result

The experiment was conducted on Mon, 22 Sep 2025 08:23:06 GMT and lasted roughly 1 second.

### Action - add-bw-mongo

<b>Status</b>	succeeded
<b>Background</b>	False
<b>Started</b>	Mon, 22 Sep 2025 08:23:06 GMT
<b>Ended</b>	Mon, 22 Sep 2025 08:23:06 GMT
<b>Duration</b>	0 seconds
<b>Paused After</b>	1s

The action provider that was executed:

<b>Type</b>	python
<b>Module</b>	chaostoxi.toxic.actions
<b>Function</b>	create_bandwidth_degradation_toxic
<b>Arguments</b>	{'for_proxy': 'mongo_proxy', 'toxic_name': 'mongo_bw', 'rate': 1}

### Action - create-order

<b>Status</b>	succeeded
<b>Background</b>	False
<b>Started</b>	Mon, 22 Sep 2025 08:23:07 GMT
<b>Ended</b>	Mon, 22 Sep 2025 08:23:07 GMT
<b>Duration</b>	0 seconds

The action provider that was executed:

<b>Type</b>	http
<b>URL</b>	http://order-api:8081/orders
<b>Method</b>	POST
<b>Timeout</b>	20
<b>Arguments</b>	{'customer': 'mongo-bandwidth-degradation', 'item': 'kopi', 'qty': 1}

#### Action - remove-bw-mongo

<b>Status</b>	succeeded
<b>Background</b>	False
<b>Started</b>	Mon, 22 Sep 2025 08:23:07 GMT
<b>Ended</b>	Mon, 22 Sep 2025 08:23:07 GMT
<b>Duration</b>	0 seconds

The action provider that was executed:

<b>Type</b>	python
<b>Module</b>	chaostoxi.toxic.actions
<b>Function</b>	delete_toxic
<b>Arguments</b>	{'for_proxy': 'mongo_proxy', 'toxic_name': 'mongo_bw'}

#### Appendix

**Action - add-bw-mongo** The *action* returned the following result:

True

**Action - create-order** The *action* returned the following result:

```
{'body': '{"status":"created","id":10}',
  'headers': {'Content-Length': '28',
              'Content-Type': 'text/plain; charset=utf-8',
              'Date': 'Mon, 22 Sep 2025 08:23:07 GMT'},
  'status': 201}
```

**Action - remove-bw-mongo** The *action* returned the following result:

True