

配置caliper测试以太坊性能

软件学院 191250007 曾堃

2022年10月7日

参照caliper官方文档: [Installing and Running Caliper | Hyperledger Caliper](#)

0. 安装 git 和 npm

1. 下载工作环境 caliper-benchmarks

```
git clone https://github.com/hyperledger/caliper-benchmarks.git
cd caliper-benchmarks
```

目前为最新版v0.5.0

2. 本地安装 Caliper CLI（使用npm安装）

在 `caliper-benchmarks/` 目录下

```
npm install --only=prod @hyperledger/caliper-cli@0.5.0

# 查看caliper版本
npx caliper --version

# 查看caliper手册
npx caliper --help
```

3. 绑定SUT，运行

```
npx caliper bind --caliper-bind-sut ethereum

npx caliper launch manager \
  --caliper-workspace . \
  --caliper-benchconfig benchmarks/scenario/simple/config.yaml \
  --caliper-networkconfig networks/ethereum/1node-clique/networkconfig.json
```

4. 运行结果

控制台中打印的性能测试结果：

```
starseeker@starseeker-VirtualBox: ~/caliper/caliper-benchmarks
2022.10.07-17:35:10.037 info [caliper] [monitor.js] Stopping all monitors
2022.10.07-17:35:10.037 info [caliper] [report-builder] ### All test results ###
2022.10.07-17:35:10.039 info [caliper] [report-builder]
+-----+-----+-----+-----+-----+-----+-----+-----+
| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
+-----+-----+-----+-----+-----+-----+-----+-----+
| open | 1000 | 0 | 50.1 | 27.59 | 4.88 | 15.27 | 21.3 |
+-----+-----+-----+-----+-----+-----+-----+-----+
| query | 1000 | 0 | 100.1 | 0.01 | 0.00 | 0.00 | 100.1 |
+-----+-----+-----+-----+-----+-----+-----+-----+
| transfer | 50 | 0 | 5.1 | 6.88 | 2.08 | 4.47 | 3.3 |
+-----+-----+-----+-----+-----+-----+-----+-----+

2022.10.07-17:35:10.055 info [caliper] [report-builder] Generated report with path /home/starseeker/caliper/caliper-benchmarks/report.html
2022.10.07-17:35:10.055 info [caliper] [monitor.js] Stopping all monitors
2022.10.07-17:35:10.055 info [caliper] [worker-orchestrator] Sending exit message to connected workers
2022.10.07-17:35:10.055 info [caliper] [round-orchestrator] Benchmark finished in 104.354 seconds. Total rounds: 3. Successful rounds: 3. Failed rounds: 0.
2022.10.07-17:35:10.056 info [caliper] [worker-message-handler] Worker#0 is exiting
2022.10.07-17:35:10.057 info [caliper] [caliper-utils] Executing command: cd .; docker-compose -f ./networks/ethereum/1node-clique/docker-compose.yml down
Stopping ethereum_clique ...
Stopping ethereum_clique ... error

ERROR: for ethereum_clique cannot stop container: cba3869730823af54b15d2ed98e5cc0e8b320fe5aa2748baea8441d02a1bc2e0: permission denied
Removing network 1node-clique_default
error while removing network: network 1node-clique_default id 6bfb8bc0568ea4b702e4c72d236d41ecf02b6b5fd578a4c752c8dd83afb6326e has active endpoints
2022.10.07-17:35:25.812 error [caliper] [caliper-utils] Unsuccessful command execution. Error code: 1. Terminating signal: null
2022.10.07-17:35:25.812 error [caliper] [caliper-engine] An error occurred while executing the end command: Error: Command failed: cd .; docker-compose -f ./networks/ethereum/1node-clique/docker-compose.yml down
```

并且也会在当前目录下生成 `report.html` 文件

HYPERLEDGER CALIPER

Basic information

DLT: ethereum
Name: simple
Description: This is an example benchmark for Caliper, to test the backend DLT's performance with simple account opening & querying transactions.
Benchmark Rounds: 3
[Details](#)

Benchmark results

[Summary](#)
[open](#)
[query](#)
[transfer](#)

System under test

[Details](#)

Caliper report

Summary of performance metrics

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
open	1000	0	50.1	27.59	4.88	15.27	21.3
query	1000	0	100.1	0.01	0.00	0.00	100.1
transfer	50	0	5.1	6.88	2.08	4.47	3.3

Benchmark round: open

Test description for the opening of an account through the deployed contract.

```
rateControl:
  type: fixed-rate
  opts:
    tps: 50
```

Performance metrics for open

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
open	1000	0	50.1	27.59	4.88	15.27	21.3

Resource utilization for open

Benchmark round: query

Test description for the query performance of the deployed contract.

```
rateControl:
  type: fixed-rate
```