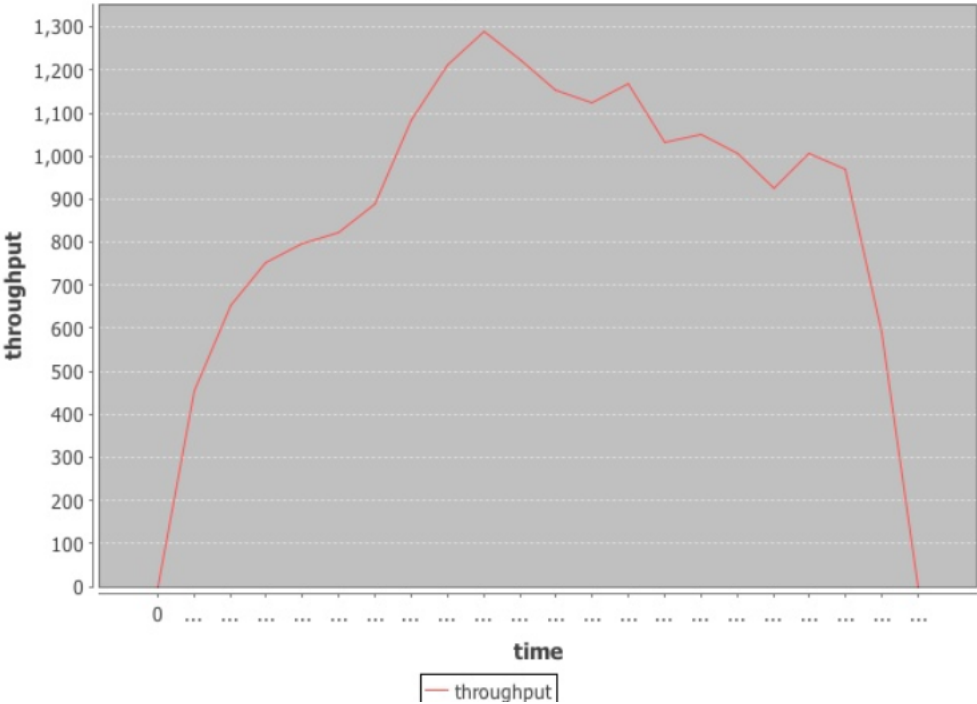


## Step1 and Step 2: default setting

```
Warmup phase running
phase:Warmup phase
total:3252ms
99th latency:58ms
95th latency:44ms
throughput:1200
=====
Loading phase running
phase:Loading phase
total:16129ms
99th latency:68ms
95th latency:43ms
throughput:1200
=====
Peak phase running
phase:Peak phase
total:34359ms
99th latency:61ms
95th latency:46ms
throughput:1129
=====
Cooldown phase running
phase:Cooldown phase
total:6403ms
99th latency:52ms
95th latency:30ms
throughput:1600
=====
```

throughput Vs times

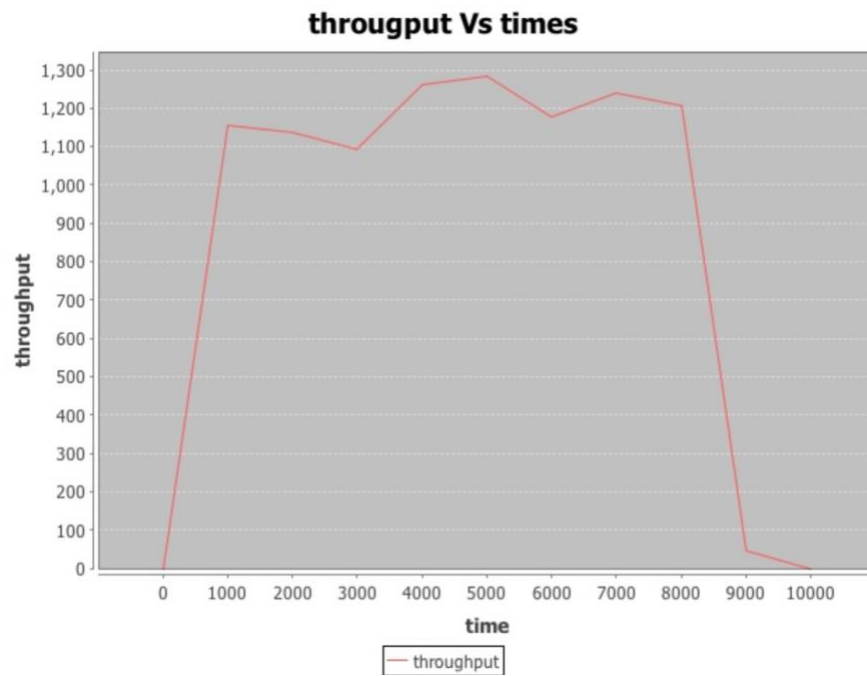


Step3:

4 tests(32,64,128,256) for a single server

32 max threads

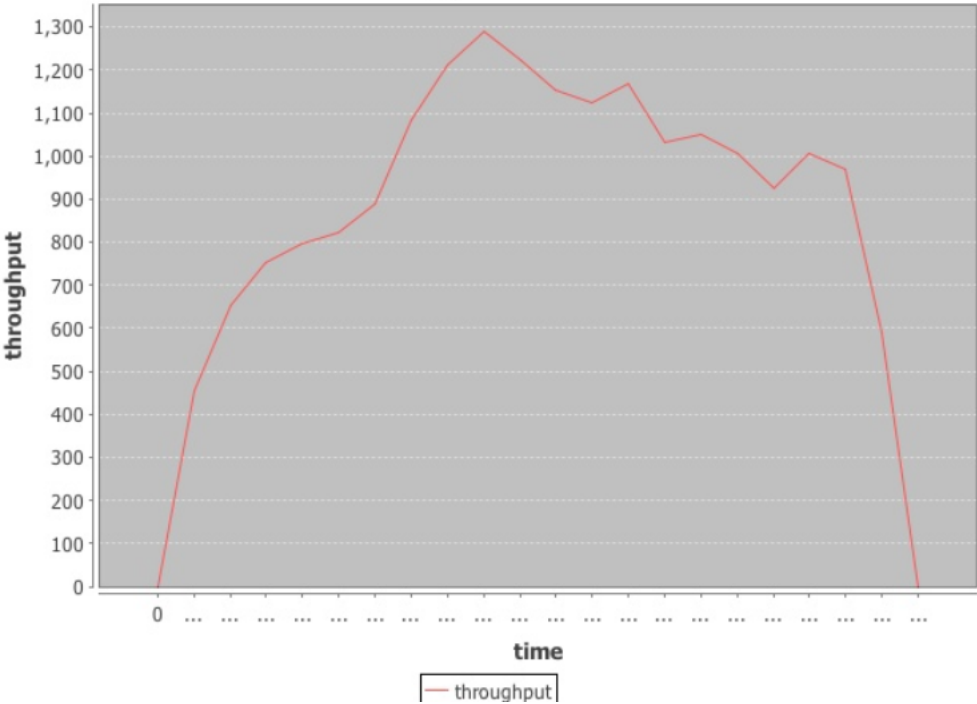
```
Warmup phase running
phase:Warmup phase
total:1487ms
99th latency:51ms
95th latency:42ms
throughput:1800
=====
Loading phase running
phase:Loading phase
total:7357ms
99th latency:53ms
95th latency:37ms
throughput:1371
=====
Peak phase running
phase:Peak phase
total:14271ms
99th latency:48ms
95th latency:37ms
throughput:1371
=====
Cooldown phase running
phase:Cooldown phase
total:3443ms
99th latency:51ms
95th latency:36ms
throughput:1600
=====
```



64 max threads

```
Warmup phase running
phase:Warmup phase
total:3252ms
99th latency:58ms
95th latency:44ms
throughput:1200
=====
Loading phase running
phase>Loading phase
total:16129ms
99th latency:68ms
95th latency:43ms
throughput:1200
=====
Peak phase running
phase>Peak phase
total:34359ms
99th latency:61ms
95th latency:46ms
throughput:1129
=====
Cooldown phase running
phase>Cooldown phase
total:6403ms
99th latency:52ms
95th latency:30ms
throughput:1600
=====
```

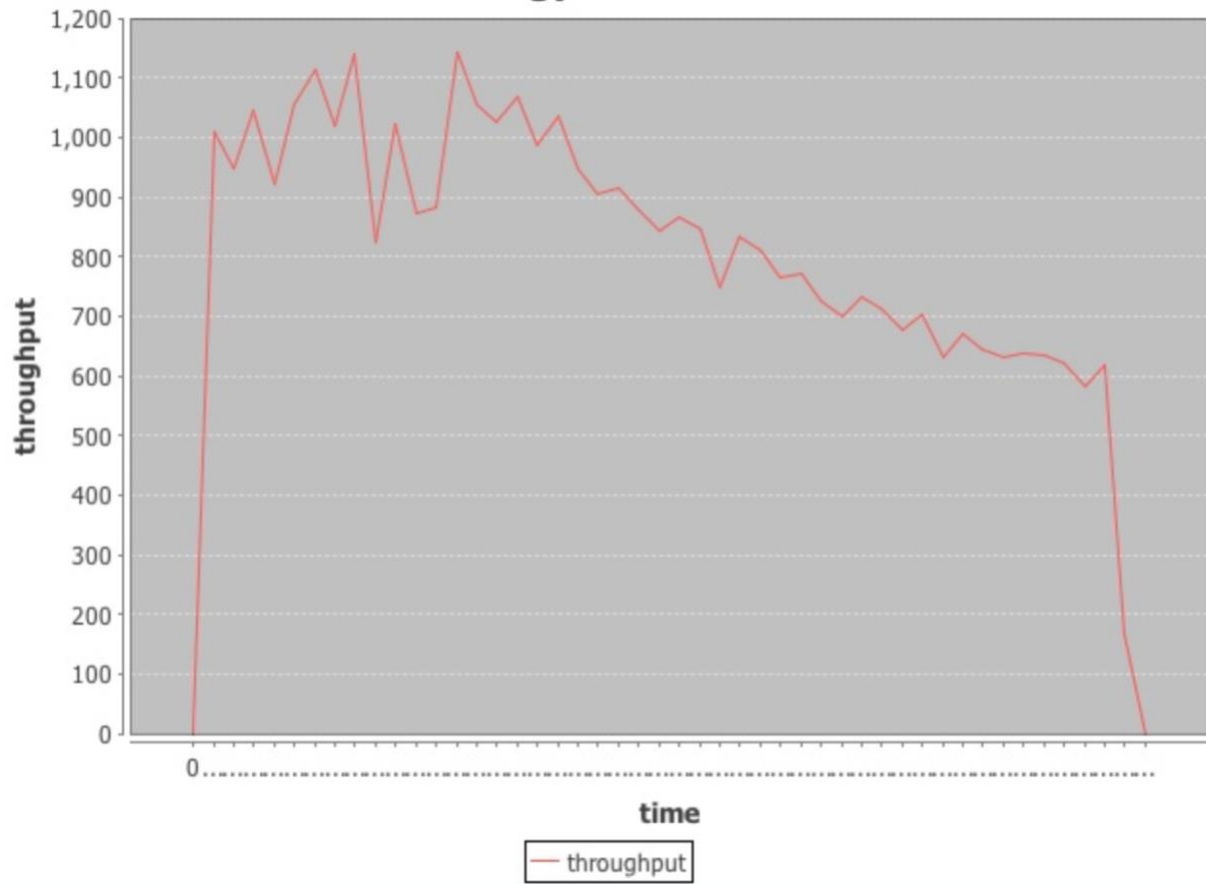
throughput Vs times



128 max threads

```
Warmup phase running
phase:Warmup phase
total:6041ms
99th latency:64ms
95th latency:44ms
throughput:1200
=====
Loading phase running
phase:Loading phase
total:34415ms
99th latency:74ms
95th latency:47ms
throughput:1129
=====
Peak phase running
phase:Peak phase
total:93108ms
99th latency:106ms
95th latency:73ms
throughput:825
=====
Cooldown phase running
phase:Cooldown phase
total:16959ms
99th latency:85ms
95th latency:47ms
throughput:1200
=====
```

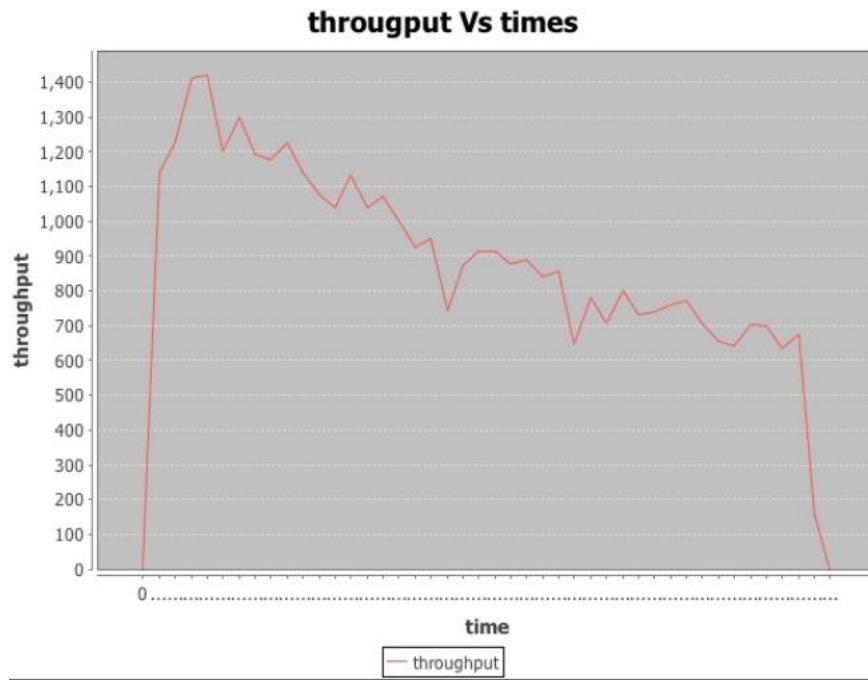
**throughput Vs times**





256 max threads

```
Warmup phase running
phase:Warmup phase
total:12723ms
99th latency:73ms
95th latency:46ms
throughput:1250
=====
Loading phase running
phase>Loading phase
total:86696ms
99th latency:92ms
95th latency:67ms
throughput:893
=====
Peak phase running
phase>Peak phase
total:256407ms
99th latency:156ms
95th latency:117ms
throughput:600
=====
Cooldown phase running
phase>Cooldown phase
total:33283ms
99th latency:70ms
95th latency:47ms
throughput:1163
=====
```



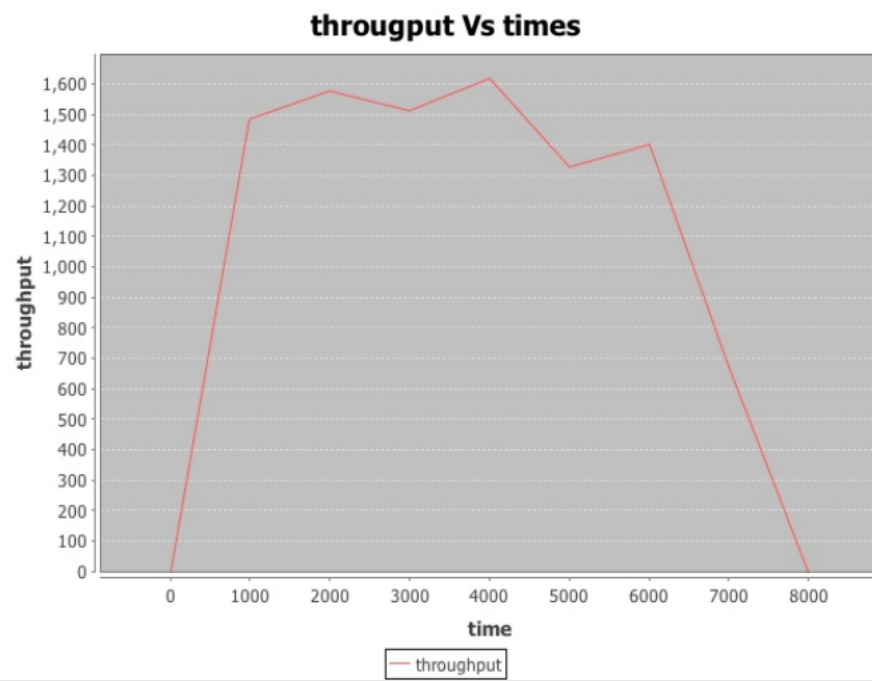
#### **Step4:**

#### **4 tests(32,64,128,256) for load balancer**

we can see that using load balancer the through put increases and run time decreases especially for high thread number like 128 and 256. My load balancer will distribute request to 6 EC2 instances.

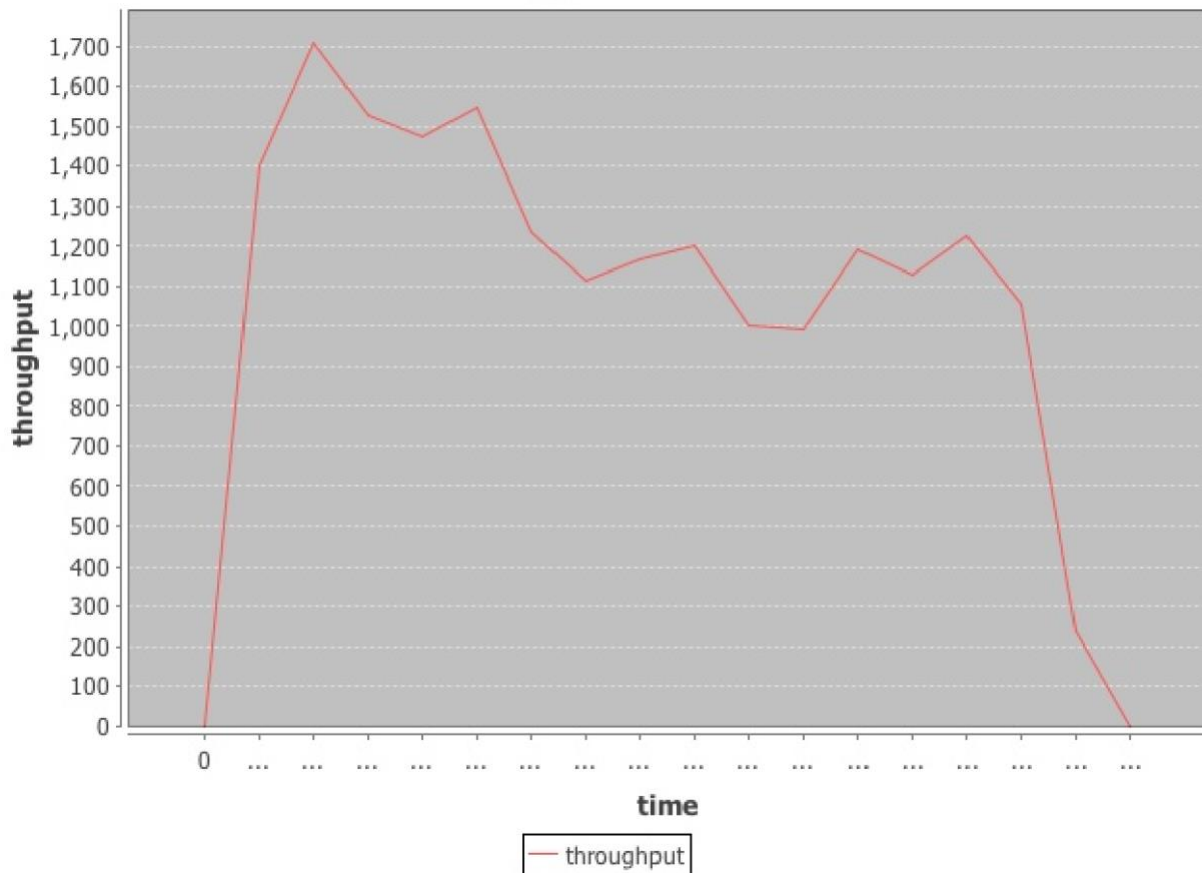
32:

```
Warmup phase running
phase:Warmup phase
total:1382ms
99th latency:71ms
95th latency:42ms
throughput:1800
=====
Loading phase running
phase>Loading phase
total:7297ms
99th latency:81ms
95th latency:41ms
throughput:1371
=====
Peak phase running
phase>Peak phase
total:15177ms
99th latency:89ms
95th latency:40ms
throughput:1280
=====
Cooldown phase running
phase>Cooldown phase
total:3510ms
99th latency:94ms
95th latency:34ms
throughput:1600
=====
```



```
Warmup phase running
phase:Warmup phase
total:2901ms
99th latency:122ms
95th latency:38ms
throughput:1800
=====
Loading phase running
phase:Loading phase
total:15786ms
99th latency:69ms
95th latency:44ms
throughput:1280
=====
Peak phase running
phase:Peak phase
total:33221ms
99th latency:78ms
95th latency:46ms
throughput:1163
=====
Cooldown phase running
phase:Cooldown phase
total:6843ms
99th latency:59ms
95th latency:34ms
throughput:1600
=====
```

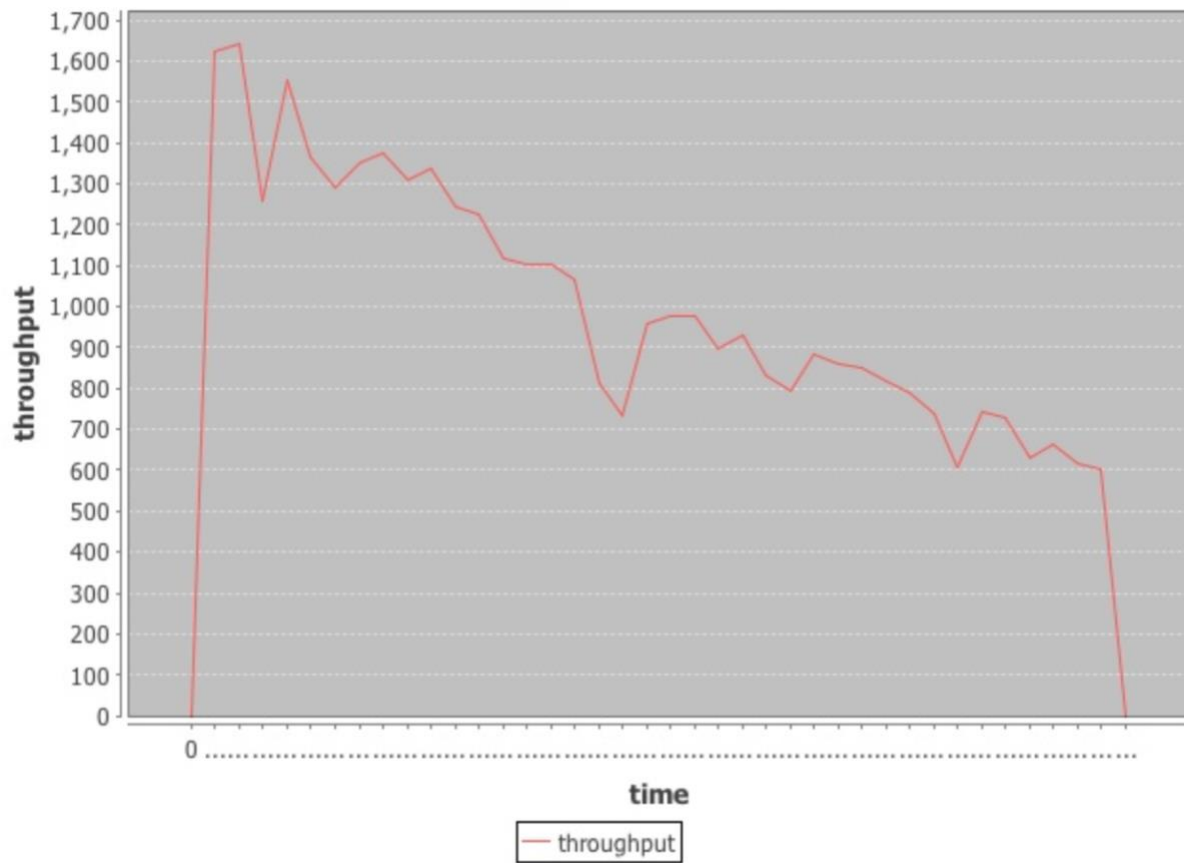
**throughput Vs times**



128

```
Warmup phase running
phase:Warmup phase
total:5853ms
99th latency:235ms
95th latency:44ms
throughput:1440
=====
Loading phase running
phase:Loading phase
total:32456ms
99th latency:234ms
95th latency:38ms
throughput:1200
=====
Peak phase running
phase:Peak phase
total:79140ms
99th latency:235ms
95th latency:60ms
throughput:972
=====
Cooldown phase running
phase:Cooldown phase
total:13475ms
99th latency:86ms
95th latency:26ms
throughput:1476
=====
```

**throughput Vs times**





## 256

```
Warmup phase running
phase:Warmup phase
total:11499ms
99th latency:164ms
95th latency:33ms
throughput:1363
=====
Loading phase running
phase:Loading phase
total:75119ms
99th latency:96ms
95th latency:59ms
throughput:1024
=====
Peak phase running
phase:Peak phase
total:237489ms
99th latency:188ms
95th latency:120ms
throughput:648
=====
Cooldown phase running
phase:Cooldown phase
total:27645ms
99th latency:45ms
95th latency:34ms
throughput:1422
=====
```

throughput Vs times

