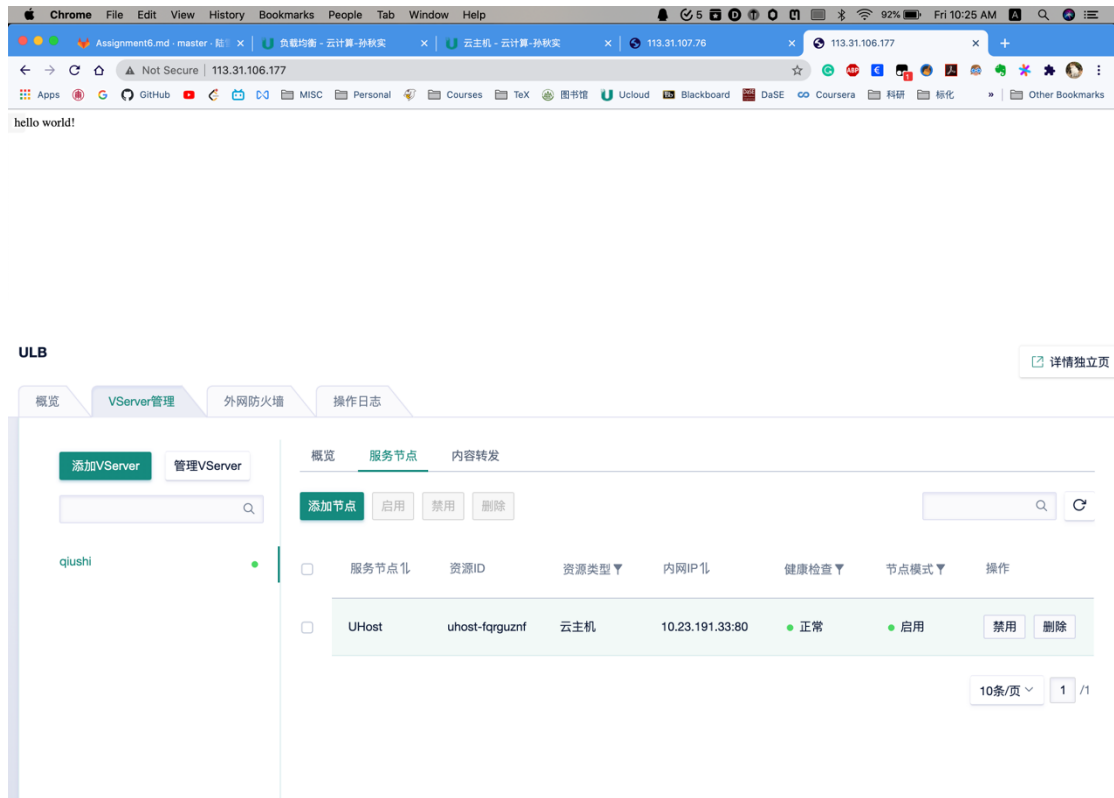


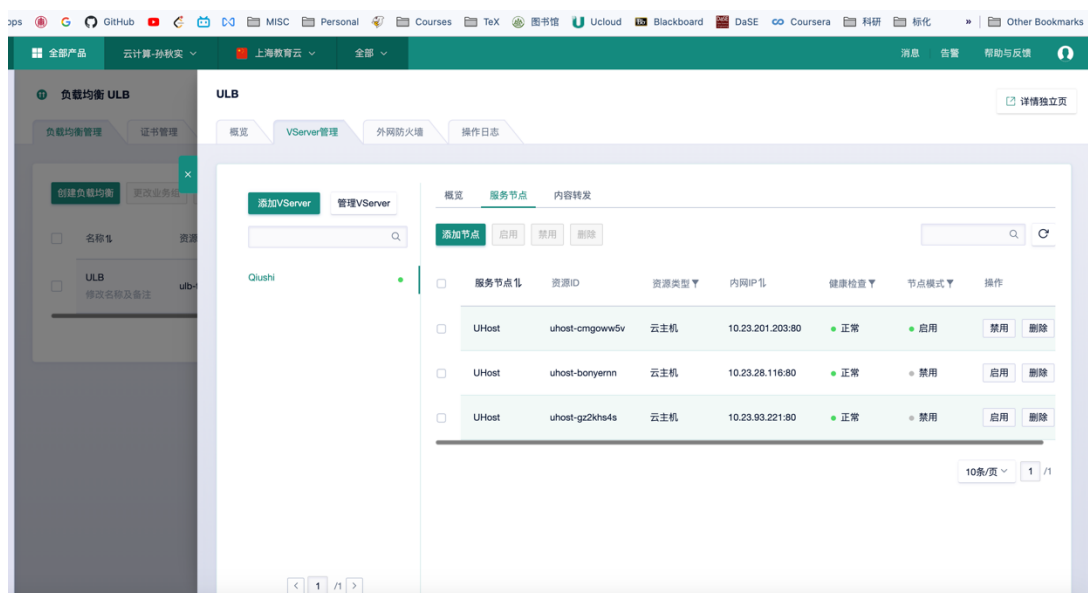
# 云计算实验六报告

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作业 1：



作业 2：



作业 3：

```

Completed 10000 requests
Finished 10000 requests

Server Software:      Werkzeug/1.0.1
Server Hostname:      113.31.118.157
Server Port:          80

Document Path:        /
Document Length:       12 bytes

Concurrency Level:     1000
Time taken for tests:  14.808 seconds
Complete requests:     10000
Failed requests:        0
Write errors:          0
Total transferred:     1650000 bytes
HTML transferred:      120000 bytes
Requests per second:   675.33 [#/sec] (mean)
Time per request:      1480.750 [ms] (mean)
Time per request:      1.481 [ms] (mean, across all concurrent requests)
Transfer rate:         108.82 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:        1      3   5.9         1      29
Processing:      3    657 1621.2       110   14770
Waiting:         3    657 1621.2       110   14770
Total:           4    660 1624.4       111   14792

```

(one node: 14.808 seconds)

```

Completed 9000 requests
Completed 10000 requests
Finished 10000 requests

Server Software:      Werkzeug/1.0.1
Server Hostname:      113.31.118.157
Server Port:          80

Document Path:        /
Document Length:       12 bytes

Concurrency Level:     1000
Time taken for tests:  6.999 seconds
Complete requests:     10000
Failed requests:        0
Write errors:          0
Total transferred:     1650000 bytes
HTML transferred:      120000 bytes
Requests per second:   1428.71 [#/sec] (mean)
Time per request:      699.933 [ms] (mean)
Time per request:      0.700 [ms] (mean, across all concurrent requests)
Transfer rate:         230.21 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:        1      3   5.4         1      28
Processing:     16    357  774.9       103   6964
Waiting:         4    357  774.9       103   6964
Total:          33    359  777.4       104   6986

Percentage of the requests served within a certain time (ms)
 50%    104

```

(two nodes: 6.999 seconds)

```

Server Software: Werkzeug/1.0.1
Server Hostname: 113.31.118.157
Server Port: 80

Document Path: /
Document Length: 12 bytes

Concurrency Level: 1000
Time taken for tests: 4.133 seconds
Complete requests: 10000
Failed requests: 0
Write errors: 0
Total transferred: 1650000 bytes
HTML transferred: 120000 bytes
Requests per second: 2419.72 [#/sec] (mean)
Time per request: 413.270 [ms] (mean)
Time per request: 0.413 [ms] (mean, across all concurrent requests)
Transfer rate: 389.90 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd] median    max
Connect:    1       2   4.9      1      25
Processing:  3    257 501.3     84   3054
Waiting:    3    257 501.3     84   3054
Total:       4    259 502.4     85   3064

Percentage of the requests served within a certain time (ms)
 50%    85
 66%   108
 75%   131
 80%   281
 90%  1007
 95%  1121
 98%  2667
 99%  3015
100% 3064 (longest request)

```

(three nodes: 4.133 seconds)

随着节点增多，性能明显提升，time per request 下降明显

作业 4：

$50000000 \text{ requests} / 30 \text{ requests per second} / 2\text{h} / 3600 \text{ seconds/h} = 231.48$

向上取整，即 232 台机器

故需要至少 232 台机器才可能平稳度过峰值请求