Output

This output contains 7 set data:
1. The interactive user interface
2. a comparison data which is implemented in socket connection each time other than remain open
3. A set of data: 10K for each operation with 1 peer node
4. A set of data: 10K for each operation with 2 peer node
5. A set of data: 10K for each operation with 4 peer node
6. A set of data: 10K for each operation with 8 peer node
7. A set of data: 1M for each operation with 8 peer node

In this set, we show how to interactive with the user interface:
basically enter 1 to put a new key, value
enter 2 to get the value of key
enter 3 to delete the value of key

```
Welcome to the user interface
You can put, get, del key to and from the system
Presee 1 to put, 2 to get, 3 to del
1
Please enter the key
1234
Please enter the value
cs550
put success
Presee 1 to put, 2 to get, 3 to del
2
Please enter the key
1234
get success
Presee 1 to put, 2 to get, 3 to del
3
Please enter the key
12345
del failed
Presee 1 to put, 2 to get, 3 to del
3
Please enter the key
1234
del success
Presee 1 to put, 2 to get, 3 to del
2
Please enter the key
1234
get failed
Presee 1 to put, 2 to get, 3 to del
```

In this set, we test 1K for each operations with 1 peer node. Each node's statistic data is as follows:—> This is a comparison experiment, it is before performance improvement—>before change the connection created each time to remain connection open

```
Peer server now begin listen
Welcome to the hash distributed system, you are in the peer client
You are now in TEST MODE
test mode get failed
Peer node[0] do [999] times put, get, del each
Average put time is [101019]us
Average get time is [100960]us
Average del time is [100243]us
TEST DONE
```

In this set, we test 100K for each operations with 1 peer node. Each node's statistic data is as follows:

```
Peer node[0] do [99999] times put, get, del each
Total time[43058407]us
Average put time is [142]us
Average get time is [143]us
Average del time is [143]us
TEST DONE
```

In this set, we test 100K for each operations with 2 peer node. Each node's statistic data is as follows:

```
Peer node[0] do [99999] times put, get, del each
Total time[31960429]us
Average put time is [106]us
Average get time is [124]us
Average del time is [88]us
TEST DONE
```

```
Peer node[1] do [99999] times put, get, del each
Total time[31726822]us
Average put time is [100]us
Average get time is [107]us
Average del time is [108]us
TEST DONE
```

In this set, we test 100K for each operations with 4 peer node. Each node's statistic data is as follows:

```
Peer node[0] do [99999] times put, get, del each
Total time[72646969]us
Average put time is [142]us
Average get time is [386]us
Average del time is [197]us
TEST DONE
```

```
Peer node[1] do [99999] times put, get, del each
Total time[74524520]us
Average put time is [197]us
Average get time is [367]us
Average del time is [179]us
TEST DONE
```

```
Peer node[2] do [99999] times put, get, del each
Total time[75013243]us
Average put time is [224]us
Average get time is [364]us
Average del time is [161]us
TEST DONE
```

```
Peer node[3] do [99999] times put, get, del each
Total time[74471664]us
Average put time is [240]us
Average get time is [352]us
Average del time is [152]us
TEST DONE
```

In this set, we test 100K for each operations with 8 peer node. Each node's statistic data is as follows:

```
Peer node[0] do [99999] times put, get, del each
Total time[88456323]us
Average put time is [211]us
Average get time is [290]us
Average del time is [382]us
TEST DONE
```

```
Peer node[1] do [99999] times put, get, del each
Total time[93425614]us
Average put time is [277]us
Average get time is [345]us
Average del time is [310]us
TEST DONE
```

```
Peer node[2] do [99999] times put, get, del each
Total time[94032967]us
Average put time is [285]us
Average get time is [368]us
Average del time is [286]us
TEST DONE
```

```
Peer node[3] do [99999] times put, get, del each
Total time[93380789]us
Average put time is [284]us
Average get time is [369]us
Average del time is [279]us
TEST DONE
```

```
Peer node[4] do [99999] times put, get, del each
Total time[93135754]us
Average put time is [269]us
Average get time is [336]us
Average del time is [326]us
TEST DONE
```

```
Peer node[5] do [99999] times put, get, del each
Total time[92306790]us
Average put time is [254]us
Average get time is [316]us
Average del time is [351]us
TEST DONE
```

```
Peer node[6] do [99999] times put, get, del each
Total time[92712110]us
Average put time is [287]us
Average get time is [386]us
Average del time is [252]us
TEST DONE
```

```
Peer node[7] do [99999] times put, get, del each
Total time[92081962]us
Average put time is [289]us
Average get time is [383]us
Average del time is [247]us
TEST DONE
```

In this set, we test 1M for each operations with 8 peer node. Each node's statistic data is as follows:

```
Peer node[0] do [999999] times put, get, del each
Total time[936501910]us
Average put time is [297]us
Average get time is [316]us
Average del time is [322]us
TEST DONE
```

```
Peer node[1] do [999999] times put, get, del each
Total time[937018885]us
Average put time is [297]us
Average get time is [316]us
Average del time is [322]us
TEST DONE
```

```
Peer node[2] do [999999] times put, get, del each
Total time[936965924]us
Average put time is [293]us
Average get time is [317]us
Average del time is [326]us
TEST DONE
```

```
Peer node[3] do [999999] times put, get, del each
Total time[938690941]us
Average put time is [296]us
Average get time is [318]us
Average del time is [323]us
TEST DONE
```

```
Peer node[4] do [999999] times put, get, del each
Total time[937003091]us
Average put time is [298]us
Average get time is [316]us
Average del time is [322]us
TEST DONE

Peer node[5] do [999999] times put, get, del each
Total time[936218019]us
Average put time is [300]us
Average get time is [317]us
Average del time is [317]us
TEST DONE

Peer node[6] do [999999] times put, get, del each
Total time[935794004]us
Average put time is [290]us
Average get time is [313]us
Average del time is [331]us
TEST DONE

Peer node[7] do [999999] times put, get, del each
Total time[930456351]us
Average put time is [280]us
Average get time is [317]us
Average del time is [331]us
TEST DONE
```