

User Guide

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I. Installation & Environment

Thrift 0.9.0

Python 2.7.12

pickledb 0.6

After having those things above installed, just run the script!

II. Quick Start

for the server run the following command:

python thrift_server.py IP:Portnumber

python server_TCP.py IP:Portnumber

python server_UDP.py IP:PortNumber

The logs are recorded respectively,

serverLog_RPC.txt, clientLog_RPC.txt

serverLog_TCP.txt, clientLog_TCP.txt

serverLog_UDP.txt, clientLog_UDP.txt

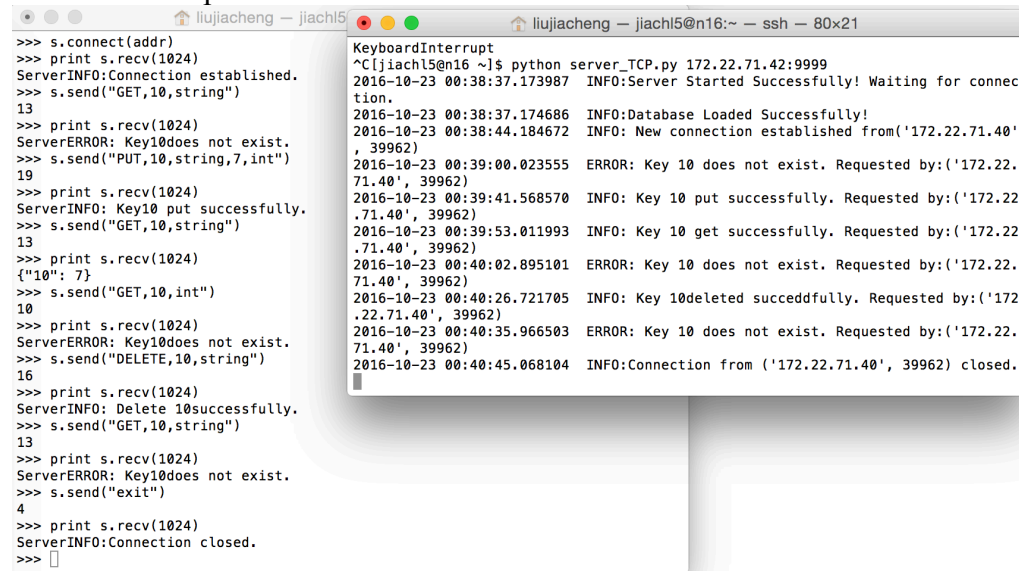
for the client, the input file must be a csv file with the format [CMD,param1,param2,...]

python thrift_client.py IP:PortNumber InputFilePath

python client_TCP.py IP:PortNumber InputFilePath

python client_UDP.py IP:PortNumber InputFilePath

Test and Examples:



```
>>> s.connect(addr)
>>> print s.recv(1024)
ServerINFO:Connection established.
>>> s.send("GET,10,string")
13
>>> print s.recv(1024)
ServerERROR: Key10does not exist.
>>> s.send("PUT,10,string,7,int")
19
>>> print s.recv(1024)
ServerINFO: Key10 put successfully.
>>> s.send("GET,10,string")
13
>>> print s.recv(1024)
{"10": 7}
>>> s.send("GET,10,int")
10
>>> print s.recv(1024)
ServerERROR: Key10does not exist.
>>> s.send("DELETE,10,string")
16
>>> print s.recv(1024)
ServerINFO: Delete 10successfully.
>>> s.send("GET,10,string")
13
>>> print s.recv(1024)
ServerERROR: Key10does not exist.
>>> s.send("exit")
4
>>> print s.recv(1024)
ServerINFO:Connection closed.
>>>
```

```
KeyboardInterrupt
^C[jiachl5@n16 ~]$ python server_TCP.py 172.22.71.42:9999
2016-10-23 00:38:37.173987 INFO:Server Started Successfully! Waiting for connection.
2016-10-23 00:38:37.174686 INFO:Database Loaded Successfully!
2016-10-23 00:38:44.184672 INFO: New connection established from('172.22.71.40', 39962)
2016-10-23 00:39:00.023555 ERROR: Key 10 does not exist. Requested by:('172.22.71.40', 39962)
2016-10-23 00:39:41.568570 INFO: Key 10 put successfully. Requested by:('172.22.71.40', 39962)
2016-10-23 00:39:53.011993 INFO: Key 10 get successfully. Requested by:('172.22.71.40', 39962)
2016-10-23 00:40:02.895101 ERROR: Key 10 does not exist. Requested by:('172.22.71.40', 39962)
2016-10-23 00:40:26.721705 INFO: Key 10deleted succeddfully. Requested by:('172.22.71.40', 39962)
2016-10-23 00:40:35.966503 ERROR: Key 10 does not exist. Requested by:('172.22.71.40', 39962)
2016-10-23 00:40:45.068104 INFO:Connection from ('172.22.71.40', 39962) closed.
```

```

*** the end of the quarter. This includes team accounts.
*** Please backup your projects at the end of the quarter.
[jiachl5@cssgate2 ~]$ ssh jiachl5@172.22.71.42
jiachl5@172.22.71.42's password:
Last login: Sun Oct 23 03:43:14 2016 from 128.208.244.213
[jiachl5@n16 ~]$ python thrift_server.py 172.22.71.42:31001
2016-10-23 04:04:35.630511 INFO:Database Loaded Successfully!
Starting python server...
2016-10-23 04:05:58.599001 INFO: Key 86vfd put successfully. Requested by:172.2
2.71.42
2016-10-23 04:06:08.220300 INFO: Key 86vfd get successfully. Requested by:172.2
2.71.42
2016-10-23 04:06:21.858983 INFO: Key 86vfddeleted succedddfully. Requested by:17
2.22.71.42
□

```

Notice:

**In our implementation, we have three basic data types for input keys and a exit command to close connection under TCP/UDP mode:

```

CMD_SET=set(['exit','PUT','DELETE','GET'])
TYPE_SET=set(['string','int','float'])

```

**But the type of the returned value of GET operation is always string.

**The TCP server will automatically close those connections which haven't been active for more than 20minutes.

Warning and Errors:

1.ValueOverwrittenWarning:

For those 'Put' operations of which the key already exists.

2. KeyDoesNotExistWaring:

For 'DELETE', when key does not exist.

3. KeyError:

For 'GET', when a key does not exist.

Please refer to the code for more info about errors and warnings.