

01__HW__08

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1 Distributed Systems (LTAT.06.007)

1.0.1 Seminar 8: Raft consensus algorithm in python

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1.1 Task

We will get acquainted with the Raft algorithm by using the python library PySyncObj. PySyncObj is a python library for building fault-tolerant distributed systems. It provides the ability to replicate your application data between multiple servers. It provides raft protocol for leader election and log replication.

Based on kvstorage.py, please implement the raft algorithm with log index increment when you set new key-value pairs or pop key-value pairs.

(A) : 1. The result of server (localhost:4321):

```
utlab@DESKTOP-SO1IIEA: 08_Raft_Consensus_Algorithm$ python3 kvstore.py localhost:4321 localhost:4322
>> get hello
(None, 0)
>> get hello
('4', 1)
>> pop hello
None
>> get hell
('666', 3)
>>
```

2. The result of server (localhost:4322):

```
utlab@DESKTOP-S01IEA: 08_Raft_Consensus_Algorithm$ python3 kvstore.py localhost:4322 localhost:4321
>> set hello 4
>> get hello
(None, 2)
>> set hell 666
>> get hell
('666', 3)
>>
```