Output Document

By: Aishwarya Malgonde, Sahil Jindal
Course: CS 677 | Professor Prashant Shenoy

Lab 1: Asterix and the Stock Bazaar

February 24, 2023

Part 1

Server - nohup python3 server.py > server.log &

Fig 1: Server starting up on Edlab with 4 threads. Looking at the time stamp and the thread names, we can see true multithreading happening

Client - nohup python3 client.py > client.log &

Fig 2: Sequential request processing happening from the client side. We can also see the stock name and the price sent back from the server

Part 2

Server - nohup python3 server.py > server.log &

```
2023-02-27 18:26:45,949 server.py MainThread Server ready
2023-02-27 18:26:54,801 server.py ThreadPoolExecutor-0_0 Waititng to acquire lock
2023-02-27 18:26:54,801 server.py ThreadPoolExecutor-0_0 Lock Acquired
2023-02-27 18:26:54,801 server.py ThreadPoolExecutor-0_0 Checking stock in Database
2023-02-27 18:26:54,801 server.py ThreadPoolExecutor-0_0 Hello World absent in Database
2023-02-27 18:26:54,802 server.py ThreadPoolExecutor-0_1 Getting Request from Client
2023-02-27 18:26:54,802 server.py ThreadPoolExecutor-0_0 Trade request received for stockName - Hello World. Message for client - -1
2023-02-27 18:26:54,803 server.py ThreadPoolExecutor-0_1 Request received
2023-02-27 18:26:54,803 server.py ThreadPoolExecutor-0_2 Waititng to acquire lock
2023-02-27 18:26:54,804 server.py ThreadPoolExecutor-0_0 Updated Databse is :
2023-02-27 18:26:54,804 server.py ThreadPoolExecutor-0_1 Checking stock in Database
2023-02-27 18:26:54,804 server.py ThreadPoolExecutor-0_3 Getting Request from Client
2023-02-27 18:26:54,805 server.py ThreadPoolExecutor-0_0 {'GameStart': {'price': 14.96, 'volume': 0, 'limit': 100}, 'FishCo': {'price':
2023-02-27 18:26:54,805 server.py ThreadPoolExecutor-0_1 Hello World absent in Database
2023-02-27 18:26:54,805 server.py ThreadPoolExecutor-0_3 Request received
2023-02-27 18:26:54,807 server.py ThreadPoolExecutor-0_2 Lock Acquired
2023-02-27 18:26:54,807 server.py ThreadPoolExecutor-0_1 Lookup request received for stockName - Hello World. Message for client - -1.0
2023-02-27 18:26:54,807 server.py ThreadPoolExecutor-0_0 Waititng to acquire lock
2023-02-27 18:26:54,808 server.py ThreadPoolExecutor-0_3 Checking stock in Database
2023-02-27 18:26:54,808 server.py ThreadPoolExecutor-0_2 Checking stock in Database
2023-02-27 18:26:54,809 server.py ThreadPoolExecutor-0_1 Waititng to acquire lock
2023-02-27 18:26:54,809 server.py ThreadPoolExecutor-0_3 Hello World absent in Database
2023-02-27 18:26:54,809 server.py ThreadPoolExecutor-0_2 Hello World absent in Database
2023-02-27 18:26:54,810 server.py ThreadPoolExecutor-0_3 Lookup request received for stockName - Hello World. Message for client - -1.0
2023-02-27 18:26:54,811 server.py ThreadPoolExecutor-0_2 Trade request received for stockName - Hello World. Message for client - -1
```

Fig 3: Server starting up on Edlab with 4 threads. We can see Lookup and Trade method requests running in concurrency

Client - nohup python3 client.py > client.log &

```
2023-02-27 18:07:41,042 client.py MainThread Looking for stock Hello World
2023-02-27 18:07:41,043 client.py MainThread Waiting for connection to host:elnux7.cs.umass.edu and port:12126
2023-02-27 18:07:41,047 client.py MainThread Trying Connection to Stub
2023-02-27 18:07:41,047 client.py MainThread Getting response from server
2023-02-27 18:07:42,137 client.py MainThread Client received: -1.0
2023-02-27 18:07:42,137 client.py MainThread Lookup: Time 1.0947139263 sec
2023-02-27 18:07:42,137 client.py MainThread Looking for stock GameStart
2023-02-27 18:07:42,137 client.py MainThread Waiting for connection to host:elnux7.cs.umass.edu and port:12126
2023-02-27 18:07:42,138 client.py MainThread Trying Connection to Stub
2023-02-27 18:07:42,138 client.py MainThread Getting response from server
2023-02-27 18:07:42,235 client.py MainThread Client received: 89.0
2023-02-27 18:07:42,235 client.py MainThread Lookup: Time 0.0979528427 sec
2023-02-27 18:07:42,235 client.py MainThread Buying 18 shares of hey
2023-02-27 18:07:42,236 client.py MainThread Waiting for connection to host:elnux7.cs.umass.edu and port:12126
2023-02-27 18:07:42,236 client.py MainThread Trying Connection to Stub
2023-02-27 18:07:42,236 client.py MainThread Getting response from server
2023-02-27 18:07:47,354 client.py MainThread Client received: -1
2023-02-27 18:07:47,356 client.py MainThread Trade: Time 5.1200010777 sec
2023-02-27 18:07:47,356 client.py MainThread Buying -79 shares of FishCo
```

Fig 4: Sequential request processing happening from the client side. We can see Lookup and Trade method requests

Update Client - nohup python3 client_update.py > client_update.log &

```
2023-02-27 18:07:41,042 client_update.py MainThread Updating stock Hello World
2023-02-27 18:07:41,043 client_update.py MainThread Waiting for connection to host:elnux7.cs.umass.edu and port:12126
2023-02-27 18:07:41,047 client_update.py MainThread Trying Connection to Stub
2023-02-27 18:07:41,047 client_update.py MainThread Getting response from server
2023-02-27 18:07:41,172 client_update.py MainThread Client received: -1
2023-02-27 18:07:41,174 client_update.py MainThread Update: Time 0.1314971447 sec
2023-02-27 18:07:41,174 client_update.py MainThread Updating stock GameStart
2023-02-27 18:07:41,174 client_update.py MainThread Waiting for connection to host:elnux7.cs.umass.edu and port:12126
2023-02-27 18:07:41,175 client_update.py MainThread Trying Connection to Stub
2023-02-27 18:07:41,175 client_update.py MainThread Getting response from server
2023-02-27 18:07:41,286 client_update.py MainThread Client received: 1
2023-02-27 18:07:41,287 client_update.py MainThread Update: Time 0.1125319004 sec
2023-02-27 18:07:41,287 client_update.py MainThread Updating stock hey
2023-02-27 18:07:41,287 client_update.py MainThread Waiting for connection to host:elnux7.cs.umass.edu and port:12126
2023-02-27 18:07:41,287 client_update.py MainThread Trying Connection to Stub
2023-02-27 18:07:41,288 client_update.py MainThread Getting response from server
2023-02-27 18:07:41,427 client_update.py MainThread Client received: -1
2023-02-27 18:07:41,428 client_update.py MainThread Update: Time 0.1412179470 sec
```

Fig 5: Sequential update request processing happening from the client side