

Homework4: Danger Log: Exchange Matching Server

To further improve our application, we could add more exception handling.

- a. We could put constraints on what can be considered a valid stock symbol. Currently we accept all numbers, symbols, and letters as acceptable option for symbol elements. In real life, symbols consist of upper-case symbols.
- b. We could check if the account number provided consists of numbers only and throw exceptions if that is not the case.
- c. Our program currently assumes that client will only send either create or transaction xml request. If the client sends something different, we currently do not send an error response back to the client. We should throw an exception and ask the client to resend a correct xml requests.
- d. We also think the function `os.sched_setaffinity ()` could throw an exception if the for instance number of cores requested doesn't exist in other machines. This should be handled gracefully.
- e. We also assume the client send an XML formatting that is correct so for example, we assume if the client wants to send create request, we assume it correctly has the start and end tags. This assumption is taken not just for create, also applies for transaction requests.
- f. We also assume that each request must start with a string integer that correctly states the length of the xml file. If such is not the case, we do not parse the xml file sent and currently do not throw an exception. We should handle these types of situations relating the XML content more gracefully.
- g. Assuming all xml requests received, we do however handle the errors related to for example selling positions that is not owned, trying to buy stock when there is not enough fund etc. Each type of errors are handled by specific custom exceptions and helpful details are sent to each clients who sent illegal requests.