

stock-ex

Stock exchange simulation based on a space based and an alternative middleware solution.

Running Apps and prerequisites:

1. Install RabbitMQ

<https://www.rabbitmq.com/download.html>

2. Build projects

```
$ mvn clean install
```

3. Run applications (via run.sh)

- **Space or Amqp environment:** `./run.sh env [space,amqp] [spacePort]`

e.g.

```
$ ./run.sh env space 9876  
$ ./run.sh env space 9877
```

```
$ ./run.sh env amqp
```

- **MarketDirectory (Global directory to retrieve all active markets):** ./run.sh marketdirectory

e.g.

```
$ ./run.sh marketdirectory
```

- **Market:** ./run.sh market [space,amqp] [host][":"[port],"/"[exchange]]

e.g.

```
$ ./run.sh market space localhost:9876
$ ./run.sh market space localhost:9877
$ ./run.sh market amqp localhost/stockExchange1
$ ./run.sh market amqp localhost/stockExchange2
```

- **MarketAgent:** ./run.sh marketagent [space,amqp] [host][":"[port],"/"[exchange]],...

e.g.

```
$ ./run.sh marketagent space localhost:9876
$ ./run.sh marketagent space localhost:9877
$ ./run.sh marketagent amqp localhost/stockExchange1
$ ./run.sh marketagent amqp localhost/stockExchange2
```

- **Investor/Fondmanager:** ./run.sh investor ["space","amqp"] [host][":"[port],"/"[exchange]]#[budget]#[numShares],...

e.g.

```
$ ./run.sh investor space fondmanager1 FOND_MANAGER
localhost:9876#10000#2000,localhost:9877#2000
$ ./run.sh investor space investor1 INVESTOR
localhost:9876#10000,localhost:9877#2000
$ ./run.sh investor amqp fondmanager1 FOND_MANAGER
localhost/stockExchange1#10000#2000,localhost/stockExchange2#2000
$ ./run.sh investor amqp investor1 INVESTOR
localhost/stockExchange1#10000,localhost/stockExchange2#2000
```

- **Broker:** `./run.sh broker ["space","amqp"] [id(int)] [host][":"[port],"/"[exchange]]`

e.g.

```
$ ./run.sh broker space 12 localhost:9876
$ ./run.sh broker amqp 12 localhost/stockExchange1
```

- **Company:** `./run.sh company ["space","amqp"] [id(string)] [host][":"[port],"/"[exchange]]#[numShares]#[initPrice]`

e.g.

```
$ ./run.sh company space G00 localhost:9876#100#10
$ ./run.sh company space AMA localhost:9877#100#10
$ ./run.sh company amqp G00 localhost/stockExchange1#100#10
$ ./run.sh company amqp AMA localhost/stockExchange2#100#10
```