# 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 ampq
```

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

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

e.g.

```
$ ./run.shinvestor space fondmanager1 FOND_MANAGER
localhost:9876#10000#2000,localhost:9877#2000
$ ./run.shinvestor space investor1 INVESTOR
localhost:9876#10000,localhost:9877#2000
$ ./run.shinvestor space fondmanager1 FOND_MANAGER
localhost/stockExchange1#10000#2000,localhost/stockExchange2#2000
$ ./run.shinvestor space 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 GOO localhost:9876#100#10
$ ./run.sh company space AMA localhost:9877#100#10
$ ./run.sh company amqp GOO localhost/stockExchange1#100#10
$ ./run.sh company amqp AMA localhost/stockExchange2#100#10
```