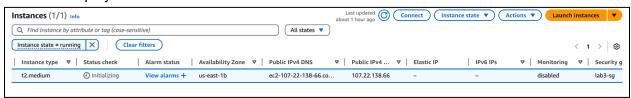
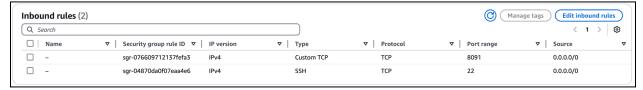
## The AWS deployment



## Security group and port configuration details:



## Outbound rules configuration, confirming full communication capability from the instance.



## Two Clients running concurrently:

```
{'data': {'name': 'BoarCo', 'price': 25.0, 'quantity': 94}}
                                                                                                                                         Trade request sent...
                                                                                                                                        Give details of order number: 3240 {'data': {'order_num': 3240, 'name': 'META', 'type': 'buy', 'quantity': 4}}
Give details of stock: BoarCo
{'data': {'name': 'BoarCo', 'price': 25.0, 'quantity': 94}}
                                                                                                                                       Give details of stock: NFLX
{'data': {'name': 'NFLX', 'price': 80.0, 'quantity': 236}}
Give details of stock: RottenFishCo
{'data': {'name': 'RottenFishCo', 'price': 15.0, 'quantity': 162}}
                                                                                                                                       Trade request sent...
Give details of order number: 3241
{'data': {'order_num': 3241, 'name': 'NFLX', 'type': 'sell', 'quantity': 4}}
Trade request sent...
Give details of order number: 2725
{'data': {'order_num': 2725, 'name': 'RottenFishCo', 'type': 'buy', 'quantity': 9}}
                                                                                                                                       Give details of stock: GOOGL {'data': {'name': 'GOOGL', 'price': 60.0, 'quantity': 143}}
Give details of stock: AMZN
{'data': {'name': 'AMZN', 'price': 65.0, 'quantity': 302}}
Give details of stock: NFLX
{'data': {'name': 'NFLX', 'price': 80.0, 'quantity': 191}}
                                                                                                                                       Give details of order number: 3242 {'data': {'order_num': 3242, 'name': 'GOOGL', 'type': 'buy', 'quantity': 2}}
Give details of stock: GOOGL
{'data': {'name': 'GOOGL', 'price': 60.0, 'quantity': 160}}
                                                                                                                                       Give details of stock: MenhirCo
{'data': {'name': 'MenhirCo', 'price': 40.0, 'quantity': 0}}
Give details of stock: RottenFishCo
{'data': {'name': 'RottenFishCo', 'price': 15.0, 'quantity': 153}}
                                                                                                                                       Give details of stock: RottenFishCo
{'data': {'name': 'RottenFishCo', 'price': 15.0, 'quantity': 122}}
                                                                                                                                       Trade request sent...
Give details of order number: 3243
{'data': {'order_num': 3243, 'name': 'RottenFishCo', 'type': 'buy', 'quantit y': 10}}
Give details of stock: MenhirCo
{'data': {'name': 'MenhirCo', 'price': 40.0, 'quantity': 11}}
Give details of stock: MenhirCo
{'data': {'name': 'MenhirCo', 'price': 40.0, 'quantity': 11}}
                                                                                                                                    ♦
Give details of stock: RottenFishCo
{'data': {'name': 'RottenFishCo', 'price': 15.0, 'quantity': 112}}
Trade request sent...
Give details of order number: 2728
{'data': {'order_num': 2728, 'name': 'MenhirCo', 'type': 'sell', 'quantity': 8}}
```

Confirming startup of catalog, three order replicas on ports 8093,8094,8095 and frontend service on port 8091.

```
(.venv) (base) mnswdhw@Manass-MacBook-Pro-2 src % ./native_build.sh
[INFO] Cleaning up old Python microservices...
Starting Stock Bazaar microservices natively...
Starting Catalog Service on port 8092
Starting Order Service Replicas...
--> Order Replica 1 on port 8093
--> Order Replica 2 on port 8094
--> Order Replica 3 on port 8095
Starting Frontend Service on port 8091
```

Catalog and frontend logs verifying successful request forwarding from frontend to catalog, confirming uncached lookups and correct response propagation.

```
☐ frontend.log M
☐
src > logs > ≡ catalog.log
                                                                 src > logs > ≡ frontend.log
        [Thread-1 (write_to_disk)] catalog written to CSV.
                                                                          (Frontend): Notified replica 1 about leader 3
        [Thread-1 (write_to_disk)] catalog written to CSV.
                                                                          (Frontend): Notified replica 2 about leader 3
        [Thread-1 (write_to_disk)] catalog written to CSV.
                                                                          Server running ...
        [ThreadPoolExecutor-0_0] is running
        Lookup Request Received
                                                                          Handling get stock lookup requests
        stock_name: "BoarCo"
                                                                          Client address: ('127.0.0.1', 60590)
                                                                          Connection: <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 8091)
                                                                          GET [Thread-1 (process_request_thread)] is running to serve ('127.0.0.1', 60590)
        name: "BoarCo"
        price: 25
                                                                          Could not find BoarCo in cache calling catalog microservice
        quantity: 31
        code: 200
                                                                          name: "BoarCo"
                                                                          price: 25
                                                                          quantity: 31
        [ThreadPoolExecutor-0_0] is running
        Lookup Request Received
                                                                          code: 200
        stock name: "RottenFishCo"
                                                                          127.0.0.1 - - [06/May/2025 23:31:23] "GET /stocks/BoarCo HTTP/1.1" 200 -
        name: "RottenFishCo"
                                                                          Handling get stock lookup reguests
                                                                          Client address: ('127.0.0.1', 60590)
        price: 15
        quantity: 149
                                                                          Connection: <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 8091)
                                                                          GET [Thread-1 (process_request_thread)] is running to serve ('127.0.0.1', 60590)
        code: 200
                                                                          Could not find RottenFishCo in cache calling catalog microservice
        [ThreadPoolExecutor-0_0] is running
        Lookup Request Received
                                                                          name: "RottenFishCo"
        stock_name: "GOOGL"
                                                                          price: 15
                                                                          quantity: 149
        name: "GOOGL"
                                                                          code: 200
        price: 60
                                                                          127.0.0.1 - - [06/May/2025 23:31:23] "GET /stocks/RottenFishCo HTTP/1.1" 200 -
        quantity: 207
                                                                          Handling get stock lookup requests
        code: 200
                                                                          Client address: ('127.0.0.1', 60590)
        [ThreadPoolExecutor-0_0] is running
                                                                          Connection: <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 8091)
        Lookup Request Received
                                                                          GET [Thread-1 (process_request_thread)] is running to serve ('127.0.0.1', 60590)
        stock_name: "AAPL'
                                                                          Could not find GOOGL in cache calling catalog microservice
        name: "AAPL"
                                                                          name: "GOOGL"
        price: 55
                                                                          price: 60
        quantity: 80
                                                                          quantity: 207
                                                                          code: 200
        [ThreadPoolExecutor-0 0] is running
                                                                          127.0.0.1 - - [06/May/2025 23:31:23] "GET /stocks/G00GL HTTP/1.1" 200 -
                                                                          Handling get stock lookup requests
        Trade Request Received
                                                                          Client address: ('127.0.0.1', 60590)
```

Order logs from all three replicas confirming consistent transaction replication, sync-up behavior, and final log agreement.