

# **CS 677 S21 Lab 2 - Bookstore**

## **Test Cases Document**

**Submitted By**

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## MILESTONE 1: Bookstore running on a single server with a single buyer

### Test case 1:

Perform lookup and search

#### CLIENT OUTPUT

```
[LOOKUP] Requesting details of book: 2
[LOOKUP] Response time in milliseconds : 62
[LOOKUP] Response: {"bookNumber":2,"bookName":"RPCs for Dummies","topic":"distributed systems","cost":50,"count":0}

[SEARCH] Requesting topic details: distributed systems
[SEARCH] Response time in milliseconds : 65
[SEARCH] Response: [{"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":2},{"bookNumber":2,"bookName":"RPCs for Dummies","topic":"distributed systems","cost":50,"count":0}]
```

### Test case 2:

Buy operations run and update the stock of the item correctly

#### CLIENT OUTPUT

```
[LOOKUP] Requesting details of book: 1
[LOOKUP] Response time in milliseconds : 66
[LOOKUP] Response: {"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":4}

[BUY] Buy Request for book: 1
[BUY] Response time in milliseconds : 69
[BUY] Response: {"bookNumber":1,"message":"Successfully bought book - How to get a good grade in 677 in 20 minutes a day"}

[LOOKUP] Requesting details of book: 1
[LOOKUP] Response time in milliseconds : 52
[LOOKUP] Response: {"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":3}
```

### Test case 3:

Buy an item with inventory 0. The buy operation should fail and stock of that item is replenished. The next buy is then successful.

## CLIENT OUTPUT

```
[BUY] Buy Request for book: 1
[BUY] Response time in milliseconds : 1793
[BUY] Response: {"bookNumber":1,"message":"Insufficient quantity of book - How to get a good grade in 677 in 20 minutes a day"}

[BUY] Buy Request for book: 1
[BUY] Response time in milliseconds : 86
[BUY] Response: {"bookNumber":1,"message":"Successfully bought book - How to get a good grade in 677 in 20 minutes a day"}

[SEARCH] Requesting topic details: distributed systems
[SEARCH] Response time in milliseconds : 83
[SEARCH] Response: [{"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":4},{bookNumber":2,"bookName":"RPCs for Dummies","topic":"distributed systems","cost":50,"count":0}]
```

## Test case 4:

On system failure, restart the system from last state

## CATALOG OUTPUT BEFORE FAILURE (Initial count of Book 1 - 5, 1 successful buy request)

```
21:04:14.708 [qtp1288235781-14] INFO Pygmy - Current inventory in library: {1=Book{bookNumber=1, bookName='How to get a good grade in 677 in 20 minutes a day', topic='distributed systems', cost=25, count=5}, 2=Book{bookNumber=2, bookName='RPCs for Dummies', topic='distributed systems', cost=50, count=0}, 3=Book{bookNumber=3, bookName='Xen and the Art of Surviving Graduate School', topic='graduate school', cost=40, count=2}, 4=Book{bookNumber=4, bookName='Cooking for the Impatient Graduate Student', topic='graduate school', cost=60, count=5}}
21:04:14.709 [qtp1288235781-14] INFO Pygmy - Query by Item request received for item: 1
21:04:14.711 [qtp1288235781-14] INFO Pygmy - Query by Item response time in milliseconds : 0
21:04:14.906 [qtp1288235781-16] INFO Pygmy - Buy update request received for item: 1
21:04:14.913 [qtp1288235781-16] INFO Pygmy - Update response time in milliseconds : 7
21:04:32.980 [Thread-8] INFO ninja.lifecycle.LifecycleServiceImpl - Stopping Ninja application...
```

## CATALOG OUTPUT AFTER FAILURE (Current count of Book 1 - 4)

```
21:07:39.407 [qtp1288235781-20] INFO Pygmy - Current inventory in library: {1=Book{bookNumber=1, bookName='How to get a good grade in 677 in 20 minutes a day', topic='distributed systems', cost=25, count=4}, 2=Book{bookNumber=2, bookName='RPCs for Dummies', topic='distributed systems', cost=50, count=0}, 3=Book{bookNumber=3, bookName='Xen and the Art of Surviving Graduate School', topic='graduate school', cost=40, count=2}, 4=Book{bookNumber=4, bookName='Cooking for the Impatient Graduate Student', topic='graduate school', cost=60, count=5}}
21:07:39.408 [qtp1288235781-20] INFO Pygmy - Query by Item request received for item: 1
```

## Test case 5:

Invoke endpoint with wrong name or parameter

```
[BUY] Buy Request for book: 1
[BUY] Response time in milliseconds : 222
[BUY] Non 200 response code received: 404
[BUY] Response: <!DOCTYPE html>
<!-- Ninja Diagnostic Error -->
```

## MILESTONE 2: Bookstore running on a N server with a N buyer nodes

### Test case 1: 4 Servers, 2 Clients

Concurrent buy request (2 clients)

Initially count = 1

Both initiate buy request, one successful, one failed, restocked book with count = 4

client_log.log	client2_log.log
<pre>[LOOKUP] Requesting details of book: 1 [LOOKUP] Response time in milliseconds : 59 [LOOKUP] Response: {"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":1}  [BUY] Buy Request for book: 1 [BUY] Response time in milliseconds : 73 [BUY] Response: {"bookNumber":1,"message":"Successfully bought book - How to get a good grade in 677 in 20 minutes a day"}  [LOOKUP] Requesting details of book: 1 [LOOKUP] Response time in milliseconds : 47 [LOOKUP] Response: {"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":4}</pre>	<pre>[LOOKUP] Requesting details of book: 1 [LOOKUP] Response time in milliseconds : 32 [LOOKUP] Response: {"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":1}  [BUY] Buy Request for book: 1 [BUY] Response time in milliseconds : 57 [BUY] Response: {"bookNumber":1,"message":"Insufficient quantity of book - How to get a good grade in 677 in 20 minutes a day"}  [LOOKUP] Requesting details of book: 1 [LOOKUP] Response time in milliseconds : 37 [LOOKUP] Response: {"bookNumber":1,"bookName":"How to get a good grade in 677 in 20 minutes a day","topic":"distributed systems","cost":25,"count":4}</pre>