An-Najah National University
Computer Engineering Department

Mayar Abdulkareem
Nora Al-Sadder

● Catalog Server

Catalog file

```
JS app.js  M        ▦ catalog.csv M  ●

catalog > ▦ catalog.csv
   1   item_number,title,topic,items_in_stock,cost
   2   0,How to get a good grade in DOS in 40 minutes a day,distributed systems,4,30
   3   1,RPCs for Noobs,distributed systems,9,20
   4   2,Xen and the Art of Surviving Undergraduate School,undergraduate school,15,10
   5   3,Cooking for the Impatient Undergrad,undergraduate school,23,20
   6
```

First operation: Query
  1) query-by-subject
     http://localhost:4000/query/subject/distributed%20systems

[{"item_number":"0","title":"How to get a good grade in DOS in 40 minutes a day","topic":"distributed systems","items_in_stock":"4","cost":"30"},{"item_number":"1","title":"RPCs for Noobs","topic":"distributed systems","items_in_stock":"9","cost":"20"}]

Note: If the subject doesn't exist
     http://localhost:4000/query/subject/unknown

localhost:4000/query/subject/unknown

"Item not found in the catalog"

  2) query-by-item
     http://localhost:4000/query/itemNumber/1

[{"item_number":"1","title":"RPCs for Noobs","topic":"distributed systems","items_in_stock":"9","cost":"20"}]

Note: If the item doesn't exist
     http://localhost:4000/query/itemNumber/10

localhost:4000/query/itemNumber/10

"Item not found in the catalog"

Second operation: Update

1) update-cost
   http://localhost:4000/update/cost/1/15

{"message":"Cost updated successfully","book_name":"RPCs for Noobs"}

```
JS app.js  M        catalog.csv M  ×

catalog > 📋 catalog.csv
   1    item_number,title,topic,items_in_stock,cost
   2    0,How to get a good grade in DOS in 40 minutes a day,distributed systems,4,30
   3    1,RPCs for Noobs,distributed systems,9,15
   4    2,Xen and the Art of Surviving Undergraduate School,undergraduate school,15,10
   5    3,Cooking for the Impatient Undergrad,undergraduate school,23,20
```
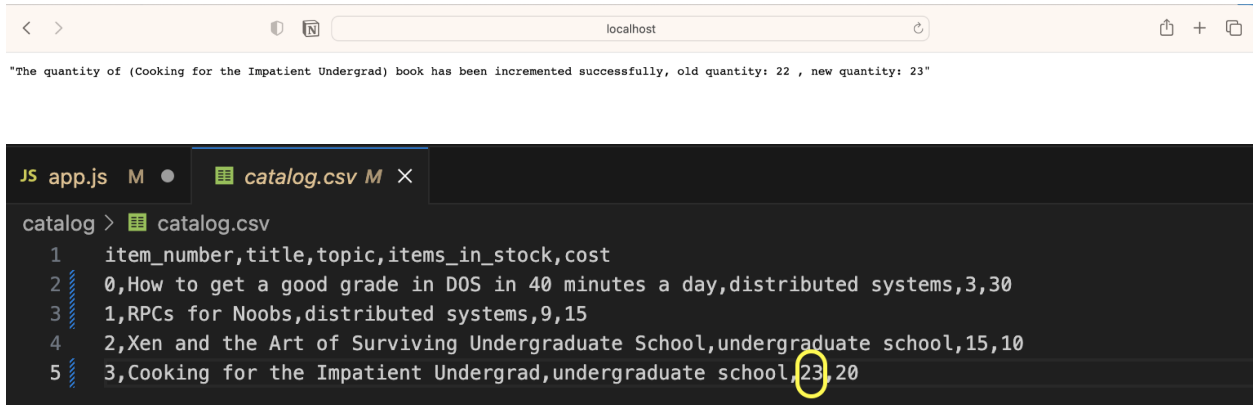
Note: if the item doesn't exist
   http://localhost:4000/update/cost/7/15

Item not found in the catalog

2) Decrement the stock
   http://localhost:4000/update/decrement/0

{"message":"Stock updated successfully","book_name":"How to get a good grade in DOS in 40 minutes a day"}

```
JS app.js  M  ●      catalog.csv M  ×

catalog > 📋 catalog.csv
   1    item_number,title,topic,items_in_stock,cost
   2    0,How to get a good grade in DOS in 40 minutes a day,distributed systems,3,30
   3    1,RPCs for Noobs,distributed systems,9,15
   4    2,Xen and the Art of Surviving Undergraduate School,undergraduate school,15,10
   5    3,Cooking for the Impatient Undergrad,undergraduate school,22,20
```

Note: if the item doesn't exist
   http://localhost:4000/update/decrement/7

{"message":"Item not found in the catalog"}

3) Increment the stock
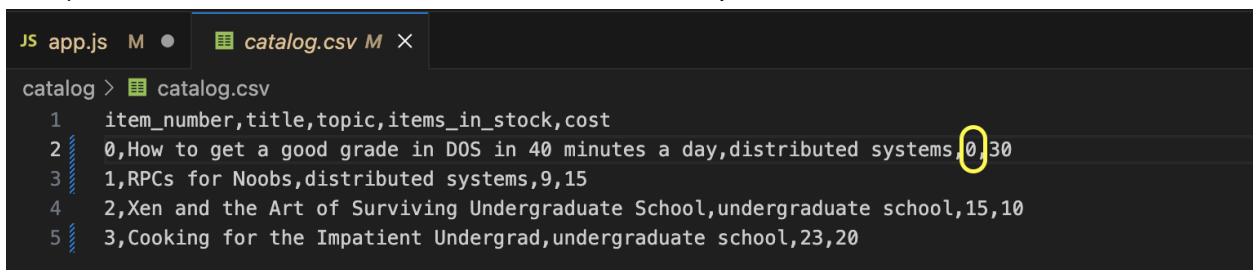http://localhost:4000/update/increment/3/1

"The quantity of (Cooking for the Impatient Undergrad) book has been incremented successfully, old quantity: 22 , new quantity: 23"

```
JS app.js  M ●    ▦ catalog.csv M  ✕

catalog >  ▦ catalog.csv
   1     item_number,title,topic,items_in_stock,cost
   2     0,How to get a good grade in DOS in 40 minutes a day,distributed systems,3,30
   3     1,RPCs for Noobs,distributed systems,9,15
   4     2,Xen and the Art of Surviving Undergraduate School,undergraduate school,15,10
   5     3,Cooking for the Impatient Undergrad,undergraduate school,23,20
```
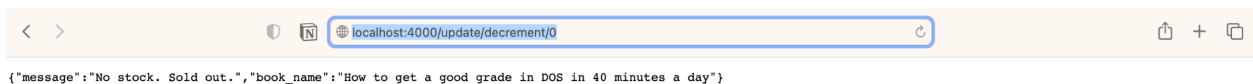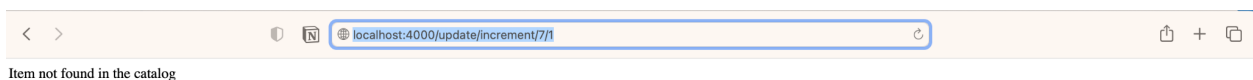
Note:
1) If the stock was 0 it won't allow the decrement operation.

```
JS app.js  M ●    ▦ catalog.csv M  ✕

catalog >  ▦ catalog.csv
   1     item_number,title,topic,items_in_stock,cost
   2     0,How to get a good grade in DOS in 40 minutes a day,distributed systems,0,30
   3     1,RPCs for Noobs,distributed systems,9,15
   4     2,Xen and the Art of Surviving Undergraduate School,undergraduate school,15,10
   5     3,Cooking for the Impatient Undergrad,undergraduate school,23,20
```

{"message":"No stock. Sold out.","book_name":"How to get a good grade in DOS in 40 minutes a day"}
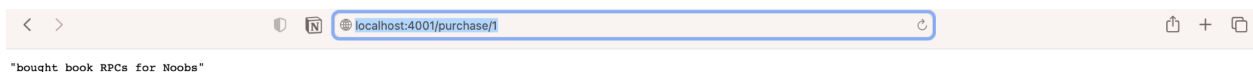
2) If the item doesn't exist
http://localhost:4000/update/increment/7/1

Item not found in the catalog

● Order Server
http://localhost:4001/purchase/1

"bought book RPCs for Noobs"

Note:
1) If the item doesn't exist
   http://localhost:4001/purchase/6

localhost:4001/purchase/6

{"error":"Item not found in the catalog"}

2) If the stock is empty
   http://localhost:4001/purchase/0

localhost:4001/purchase/0

"Item is out of stock"

● Front

First operation: Query
1) Search by a topic
   http://localhost:4002/search/distributed%20systems

localhost:4002/search/distributed%20systems
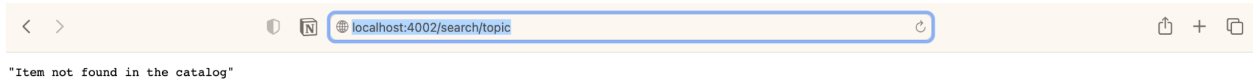
[{"item_number":"0","title":"How to get a good grade in DOS in 40 minutes a day","topic":"distributed systems","items_in_stock":"0","cost":"30"},{"item_number":"1","title":"RPCs for Noobs","topic":"distributed systems","items_in_stock":"6","cost":"15"}]

Note: If the topic doesn't exist

http://localhost:4002/search/topic

localhost:4002/search/topic

"Item not found in the catalog"

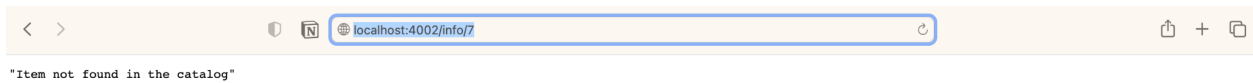2) Search by an item number

http://localhost:4002/info/1

localhost:4002/info/1

[{"item_number":"1","title":"RPCs for Noobs","topic":"distributed systems","items_in_stock":"6","cost":"15"}]

Note: If the item doesn't exist

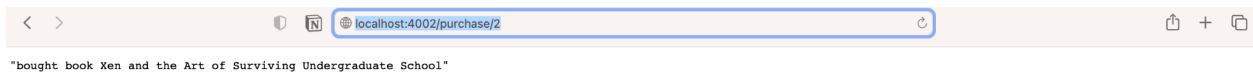http://localhost:4002/info/7

localhost:4002/info/7

"Item not found in the catalog"

Second operation: Purchase

http://localhost:4002/purchase/2

localhost:4002/purchase/2

"bought book Xen and the Art of Surviving Undergraduate School"
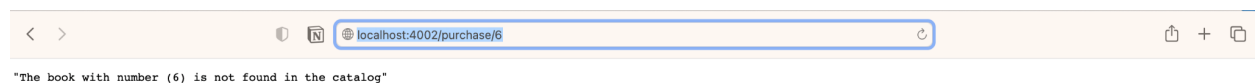
order.csv M ✕   **JS app.js** M

order > ▦ order.csv
```
1    order_number,item_number
2    0,3
3    1,2
4    2,1
5    3,0
6    4,1
7    5,0
8    6,0
9    7,0
10   8,3
11   9,0
12   10,2
13   11,2
14   12,2
15   13,2
16   14,2
17   15,2
18   16,1
19   17,0
20   18,0
21   19,1
22   20,1
23   21,1
24   22,1
25   23,2
```

catalog.csv M ✕   **JS app.js** M

catalog > ▦ catalog.csv
```
1    item_number,title,topic,items_in_stock,cost
2    0,How to get a good grade in DOS in 40 minutes a day,distributed systems,0,30
3    1,RPCs for Noobs,distributed systems,6,15
4    2,Xen and the Art of Surviving Undergraduate School,undergraduate school,14,10
5    3,Cooking for the Impatient Undergrad,undergraduate school,23,20
```

Note:
1) If the item doesn't exist
   http://localhost:4002/purchase/6

localhost:4002/purchase/6

"The book with number (6) is not found in the catalog"

2) If the stock is empty
   http://localhost:4002/purchase/0

localhost:4002/purchase/0

"Item is out of stock"