BAZAR.COM

PART1

Mohammed Jaddou	**-**	**12112568**
Ahmad Sultan	**-**	**12112656**

INTRODUCTION

The main goals of this project are to create a system for tracking orders, buying books, and maintaining a book catalog. It is a full-stack application that makes use of a server constructed with Express and Node.js, and CSV files are used for data manipulation and storage. There are several parts to the project:

- **Book catalog management (adding, updating, and searching books).**
- **Order management (purchasing books, logging orders).**
- **Stock management (decreasing stock based on purchases).**

The project simulates an e-commerce-like system for books, where users can search for books by topic, purchase them, and the stock is updated accordingly.

TECHNOLOGY STACK

- **Backend: Node.js, Express**
- **CSV Handling: csv-parser, csv-writer**
- **Data Storage: CSV files**
- **Testing Tool: Postman for API testing**
- **Docker**

FEATURES

BOOK CATALOG MANAGEMENT

The system allows users to:

- **Search books by topic.**
- **View detailed information about a specific book by its ID.**
- **Update book prices and stock based on purchasing.**

ORDER MANAGEMENT

The system also allows users to:

- Purchase books by specifying the quantity.

- Log each purchase into the orders.csv file.

API ENDPOINTS

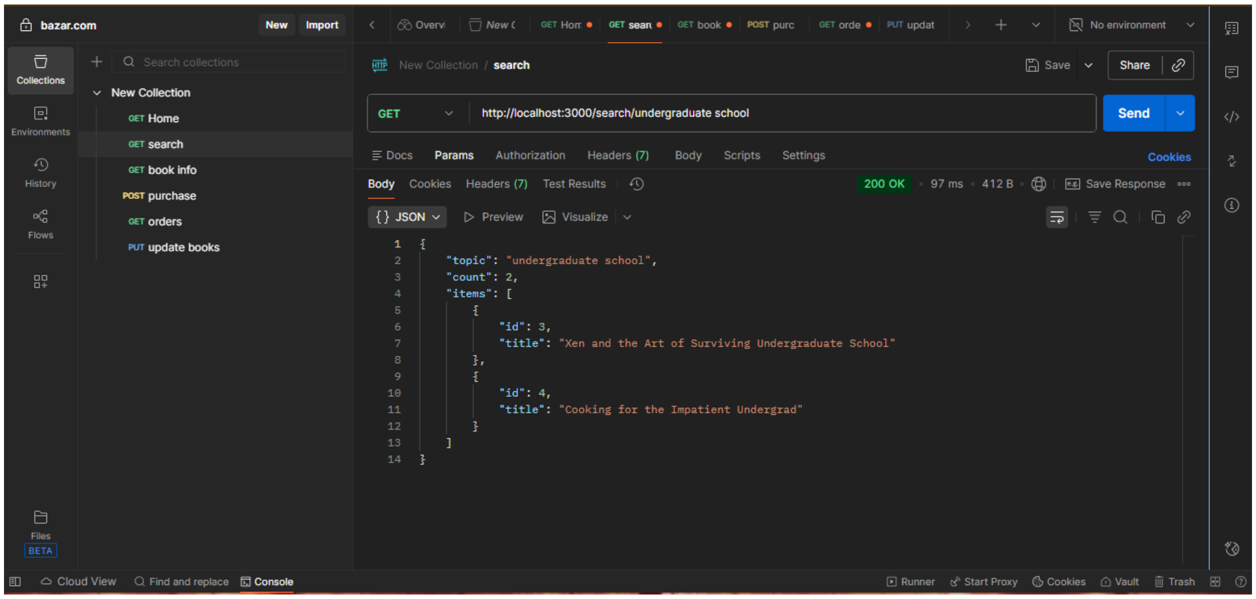
The system's primary API endpoints are listed below:

Method	Endpoint	Description
GET	/search/:topic	Searches for books based on the topic specified in the request.
GET	/info/:item_number	Retrieves detailed information about a specific book using its item number (ID).
PUT	/update	Updates the price and stock of a book specified in the request body.
POST	/purchase/:item_number	Allows a user to purchase a book and logs the order in orders.csv.

RESULTS

The following section provides step-by-step instructions on how to test the API using Postman.

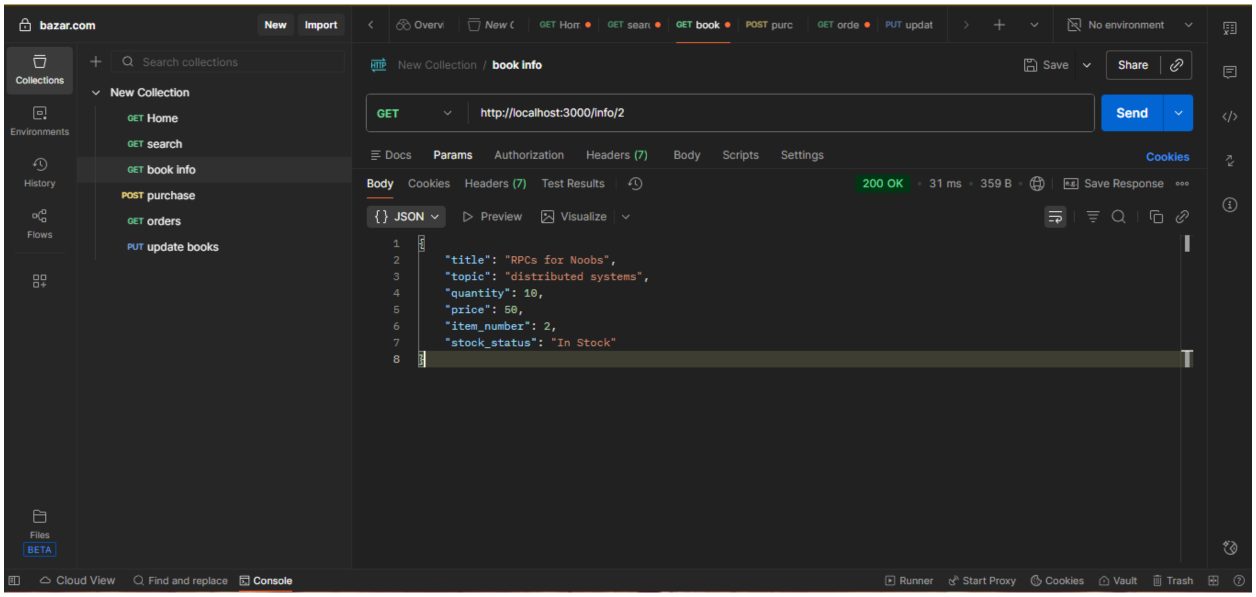
HTTP://LOCALHOST:3000/SEARCH/UNDERGRADUATE SCHOOL



GET http://localhost:3000/search/undergraduate school

```
{
    "topic": "undergraduate school",
    "count": 2,
    "items": [
        {
            "id": 3,
            "title": "Xen and the Art of Surviving Undergraduate School"
        },
        {
            "id": 4,
            "title": "Cooking for the Impatient Undergrad"
        }
    ]
}
```

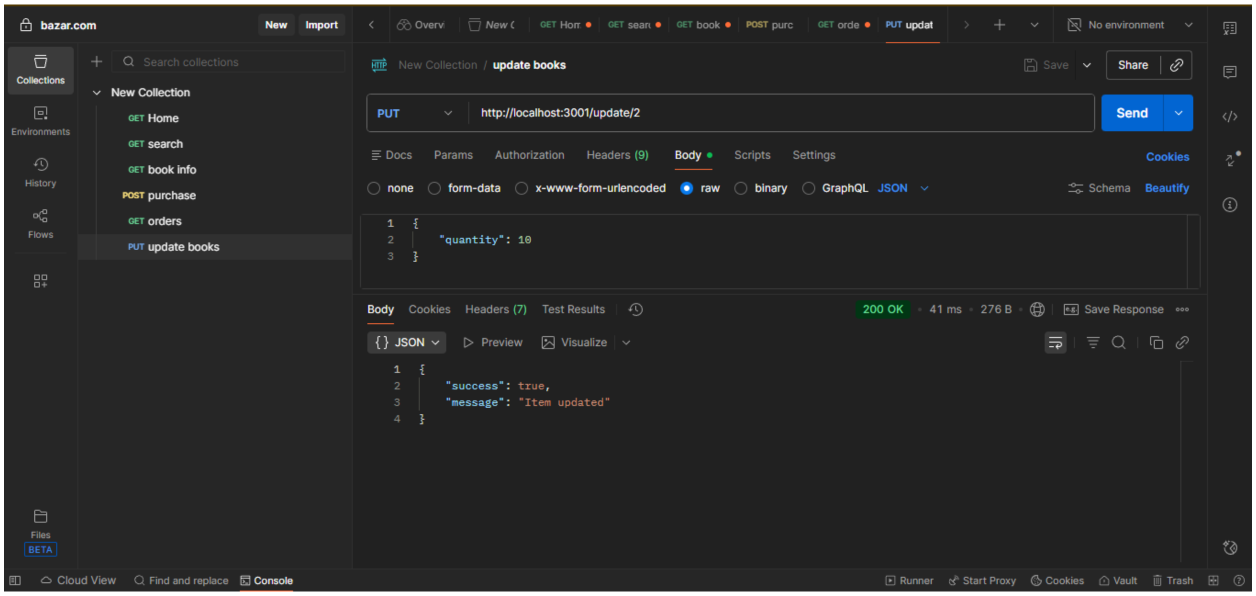
HTTP://LOCALHOST:3000/INFO/2



GET http://localhost:3000/info/2

```
{
    "title": "RPCs for Noobs",
    "topic": "distributed systems",
    "quantity": 10,
    "price": 50,
    "item_number": 2,
    "stock_status": "In Stock"
}
```

HTTP://LOCALHOST:3001/UPDATE/2

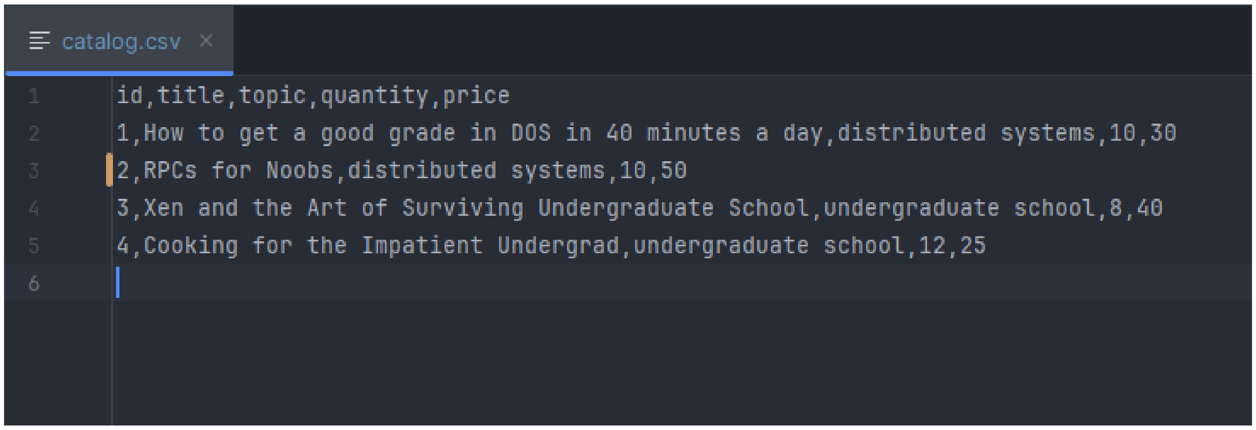


PUT http://localhost:3001/update/2

```
{
  "quantity": 10
}
```

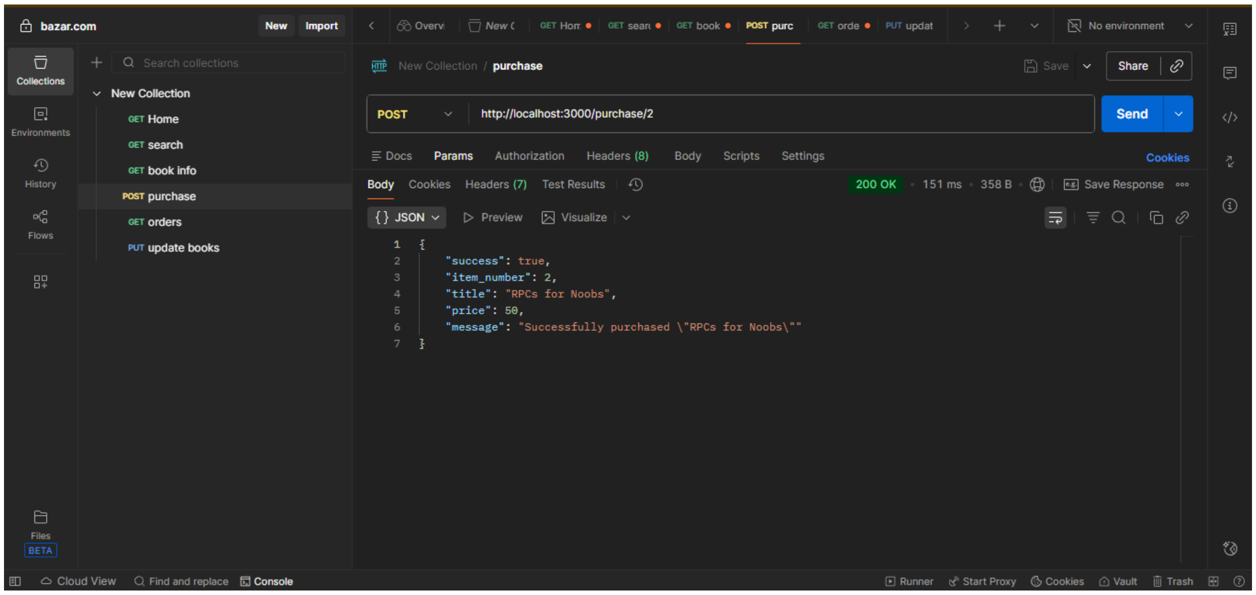
200 OK · 41 ms · 276 B

```
{
  "success": true,
  "message": "Item updated"
}
```



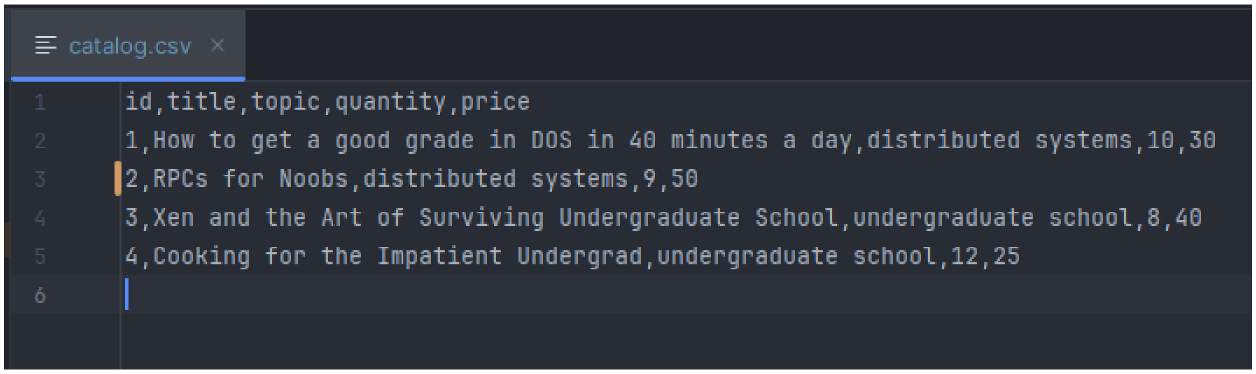
```
id,title,topic,quantity,price
1,How to get a good grade in DOS in 40 minutes a day,distributed systems,10,30
2,RPCs for Noobs,distributed systems,10,50
3,Xen and the Art of Surviving Undergraduate School,undergraduate school,8,40
4,Cooking for the Impatient Undergrad,undergraduate school,12,25
```

HTTP://LOCALHOST:3000/PURCHASE/2



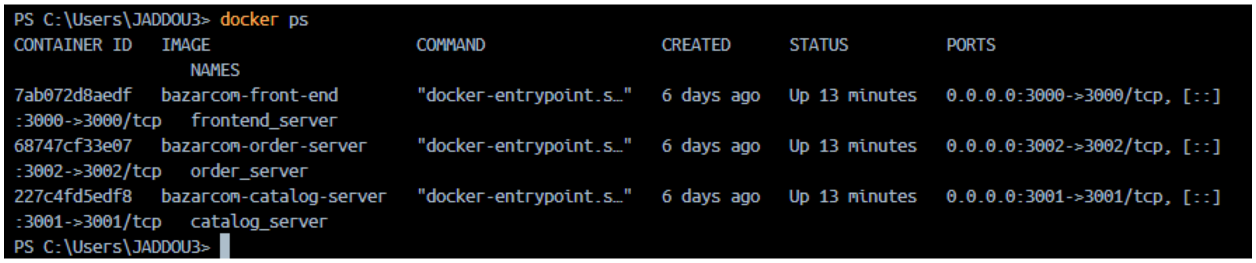
```
POST http://localhost:3000/purchase/2
```

```
{
    "success": true,
    "item_number": 2,
    "title": "RPCs for Noobs",
    "price": 50,
    "message": "Successfully purchased \"RPCs for Noobs\""
}
```



```
id,title,topic,quantity,price
1,How to get a good grade in DOS in 40 minutes a day,distributed systems,10,30
2,RPCs for Noobs,distributed systems,9,50
3,Xen and the Art of Surviving Undergraduate School,undergraduate school,8,40
4,Cooking for the Impatient Undergrad,undergraduate school,12,25
```

DOCKER CONTAINERS



```
PS C:\Users\JADDOU3> docker ps
CONTAINER ID   IMAGE                    COMMAND                  CREATED      STATUS          PORTS
                 NAMES
7ab072d8aedf   bazarcom-front-end       "docker-entrypoint.s…"   6 days ago   Up 13 minutes   0.0.0.0:3000->3000/tcp, [::]
:3000->3000/tcp    frontend_server
68747cf33e07   bazarcom-order-server    "docker-entrypoint.s…"   6 days ago   Up 13 minutes   0.0.0.0:3002->3002/tcp, [::]
:3002->3002/tcp    order_server
227c4fd5edf8   bazarcom-catalog-server  "docker-entrypoint.s…"   6 days ago   Up 13 minutes   0.0.0.0:3001->3001/tcp, [::]
:3001->3001/tcp    catalog_server
PS C:\Users\JADDOU3>
```