Lab 1: Bazar.com: A Multi-tier Online Book Store

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In this lab we used SPARK – JAVA

First thing we created database for our books using **sqlite** and we stored books.

```
sqlite> select * from categories;
1|How to get a good grade in DOS in 40 minutes a day|25|45|distributed systems
2|RPCs for Noobs|31|25|distributed systems
3|Xen and the Art of Surviving Undergraduate School|13|30|undergraduate school
4| Cooking for the Impatient Undergrad|39|50|undergraduate school
```

Then we built category server, this server receives most requests:

1- Search from front.
2- Info from front.
3- Search from order server.

Then we built frontend server and order server.

How our project work?!

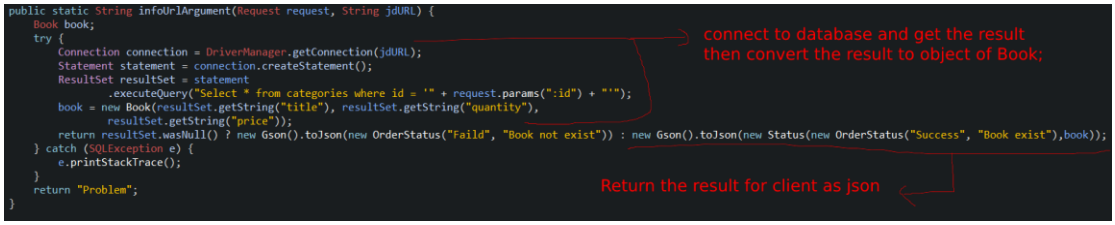
When the client sends the request for frontend server, frontend server check the request to forward it for appropriate server. Like when it checked it and see /info it'll forward it for category server.

Category server received the request then checked it if info or search and if POST/GET.

If the request GET then it will check the URL to take the arguments and if it's POST, it'll check the body of the request.

The category server connected with database to get data from it. When it received data, it converts each element to Object of book then convert it to JSON to return it for client.

And in this picture explain it for info after check request type:

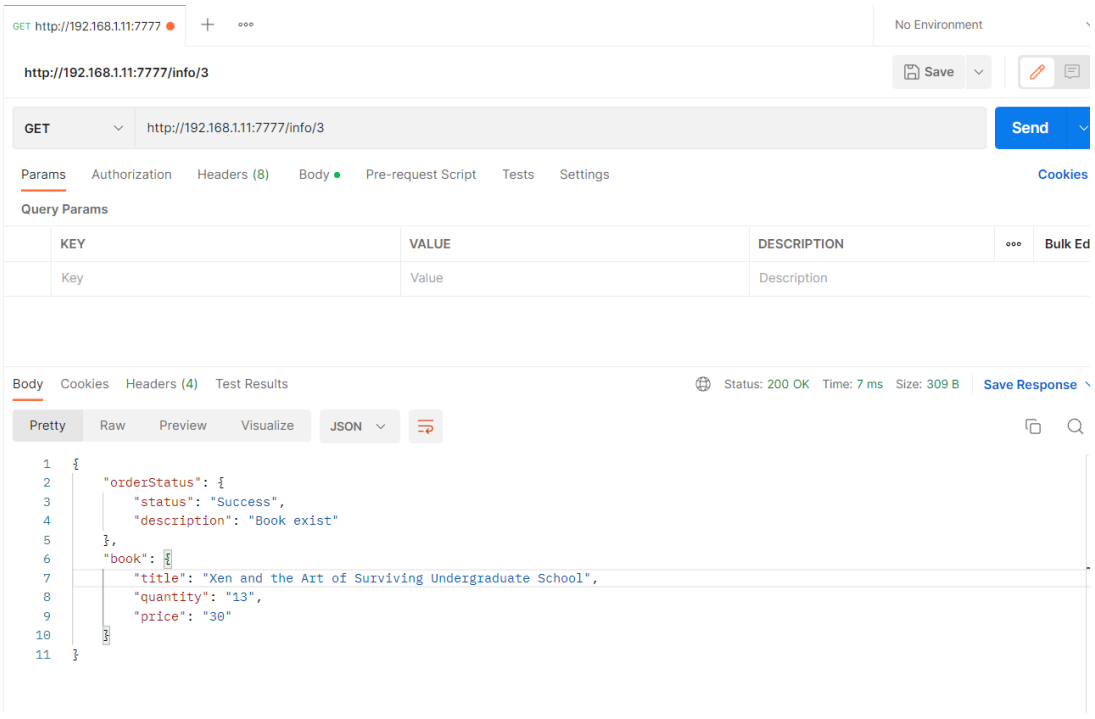


This was for category server.

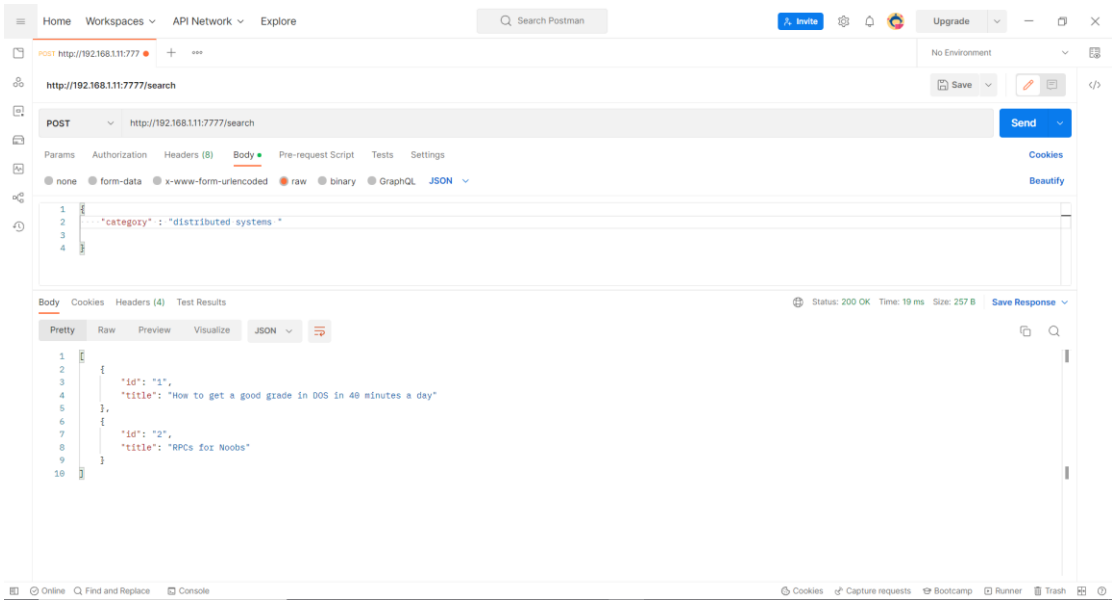
When the frontend received request for order it'll forward the request for order server. When the order server received the request it'll send request for category server to check if the book exist, and if it's existed it will update book's quantity (-1).

Some results:

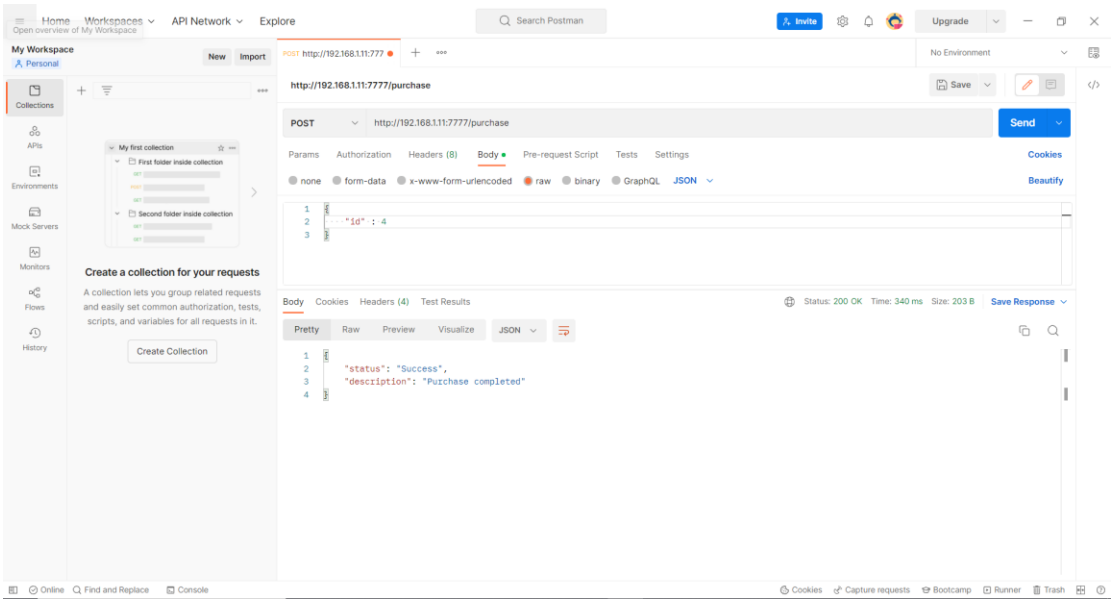
1- Get info for book of id = 3, passing arguments in URL:



2-Search for distributed systems category passing arguments in the body:



3-Purchase book passing arguments in the body:



4-Purchase not existing book passing arguments in the body: