**SOCKET COMMUNICATION**

The communication with the Database Server is accomplished by TCP sockets connection. Services application and Database Server exchange messages in form of JSON strings containing Request or Response.

Request message has two attributes, operation and arguments. Operation describes the type of the request and arguments supplies necessary information for processing the request by database.

Response message has two attributes, status and content. Status describes if the requested operation has ended with success or an error occurred. The content of the response contains the result of the request. If the request operation is not recognized by the Database Server, it returns a response with Error status and content “Wrong operation”.

Those are the types of request Operation with associated arguments and corresponding responses:

|  |  |  |  |
| --- | --- | --- | --- |
| Who | Type | Request | Response |
| BookService | Search | {"operation":"Search","args":{"searchTerm":"java"}} | List<Book> for desired searchTerm  [json](https://pastebin.com/HbKJpQ9d) |
| BookService | AdvancedSearch | {"operation":"AdvancedSearch","args":{"year":0,"author":"author","isbn":"isbn","title":"java","category":"Science"}} | List<Book> for desired searchTerm  [json](https://pastebin.com/uAHNBVxA) |
| BookService | BookDetails | {"operation":"BookDetails","args":{"isbn":"978-83-246-7758-0"}} | String  [json](https://pastebin.com/Pa9jHzZG) |
| BookService | MakeLibraryOrder | {"operation":"MakeLibraryOrder","args":{"isbn":"978-83-246-7758-0","libraryId":"ce78ef57-77ec-4bb7-82a2-1a78d3789aef","customerId":"0227f11c-8f66-4835-8283-021f0df8b558"}} | {"status":"OK","content":"Added"} |
| BookService | BuyBook | {"operation":"MakeBookStoreOrder","args":{"isbn":"978-83-246-7758-0","customerId":"0227f11c-8f66-4835-8283-021f0df8b558","bookstoreId":"eb3777c8-77fe-4acd-962d-6853da2e05e0"}} | {"status":"OK","content":"Added"} |
| BookService | AddCustomer | Add password |  |
| BookService | Authenticate | {"email":"testemail@test.test", "password": "test"} | {"url":"empty","sessionKey":"68e2ff2c-31fc-4c41-a6d2-bf33d33ad364","userType":"Customer","name":"Johny"} |
| BookStore | BookStoreSearch | {"operation":"BookStoreSearch","args":{"searchTerm":"java","bookstoreid":"eb3777c8-77fe-4acd-962d-6853da2e05e0"}} | [json](https://pastebin.com/1mGu7pwF) |
| BookStore | BookStoreAdvancedSearch | {"operation":"BookStoreAdvancedSearch","args":{"year":0,"author":"author","isbn":"isbn","title":"java","category":"Science","bookstoreid":"eb3777c8-77fe-4acd-962d-6853da2e05e0"}} | [json](https://pastebin.com/1mGu7pwF) |
| BookStore | AddBook | {"operation":"AddBook","args":{"library":false,"book":{"isbn":"newIsbn","title":"newTitle","author":"newAuthor","year":0,"category":"Children"},"id":"eb3777c8-77fe-4acd-962d-6853da2e05e0"}} | {"status":"OK","content":"Added"} |
| BookStore | DeleteBook | {"operation":"DeleteBook","args":{"library":false,"isbn":"newIsbn","id":"eb3777c8-77fe-4acd-962d-6853da2e05e0"}} | {"status":"OK","content":"Deleted"} |
| BookStore | BookStoreOrders | {"operation":"BookStoreOrders","args":{"bookstoreid":"id"}} | List<BookStoreOrder> for given bookstore  [json](https://pastebin.com/nDDfhGz5) |
| BookStore | ConfirmBookStoreOrder | {"operation":"ConfirmBookStoreOrder","args":{"orderId":"id"}} | {"status":"OK","content":"Confirmation was successful"} |
| Library | LIbrarySearch | {"operation":"LibrarySearch","args":{"searchTerm":"Tolkien","libraryid":"ce78ef57-77ec-4bb7-82a2-1a78d3789aef"}} | [json](https://pastebin.com/5aXPTVjH) |
| Library | LibraryAdvancedSearch | {"operation":"LibraryAdvancedSearch","args":{"title":"Lord","author":"author","year":0,"isbn":"","category":"Children","libraryid":"ce78ef57-77ec-4bb7-82a2-1a78d3789aef"}} | {"status":"OK","content":[{"isbn":"978-83-8116-1","title":"Lord of the Rings: Fellowship of the Ring","author":"J.R.R Tolkien","year":1954,"category":"Fantasy"}]} |
| Library | AddBook | {"operation":"AddBook","args":{"library":true,"id":"ce78ef57-77ec-4bb7-82a2-1a78d3789aef","book":{"title":"newTitle","author":"newAuthor","year":2017,"isbn":"newIsbn","category":"Science"}}} | {"status":"OK","content":"Added"} |
| Library | DeleteBook | {"operation":"DeleteBook","args":{"library":true,"id":"ce78ef57-77ec-4bb7-82a2-1a78d3789aef","bookid":"fe993ec5-6d7b-4244-aa7d-0665b64e0e37"}} | {"status":"OK","content":"Deleted"} |
| Library | LibraryBookDetails | {"operation":"LibraryBookDetails","args":{"libraryid":"ce78ef57-77ec-4bb7-82a2-1a78d3789aef","isbn":"978-83-246-7758-0"}} | [json](https://pastebin.com/7zDkYM6T) |
| Library | LibraryOrders | {"operation":"LibraryOrders","args":{"libraryid":"id"}} | List<LibraryOrder> for given library  [json](https://pastebin.com/Qg8cSVv4) |
| Library | ReturnBook | {"operation":"ReturnBook","args":{"orderId":"id"}} | {"status":"OK","content":"Book was returned successfully"} |