

Simple Bank Application







Technologies used:






- TypeScript
- MongoDB







Database:














- We used No SQL Database
- Contains four collections
accounts ,cards,clients,transactions.
- User account collection points to card collection which points to the client data collection.
- Transaction collection contains client data,payment gateway data and time of the transaction

Visualization of database collections

Accounts			
	id	integer	
	client id	integer	
	balance	integer	
	payment_gateway_id	integer	
 Add field			

clients			
	id	integer	
	Name	string	
	address	string	
 Add field			

cards			
	id	integer	
	account id	integer	
	ccv	integer	
	stopped	boolean	
 Add field			

transactions			
	id	integer	
	Payment_gateway_code	integer	
	clientID	integer	
	clientID2	integer	
	transaction_type	string	
	account id	integer	
	card id	integer	
	amount	integer	
	merchant	string	
	time_stamp	timestamp	
	corresponding transaction id	integer	
 Add field			

How it work :

- When a call come from the payment gateway portal our API Authenticate if it is a valid user and a valid password which is saved encrypted in our system then validates the inputs coming first before complete the transaction:
 - If card ID belongs to a valid account In our system.
 - If this card is working
 - If the CCV is correct and belongs to the client card
 - If this client has enough balance in his account

How it work :

- Two transaction are inserted to the database :
 - First one :contains the data of the client,his account id his card id ,the amount that will be deduct from his balance ,payment gateway portal code and id and transaction type
 - Second one :contains the data of the payment gateway portal id ,the amount that will be transferred to his balance,client id and his account id, his card id and transaction type
- we update the balance of the client account and the payment gateway account
- We return a simple response contains the new gateway balance and that the transaction done successfully

Transaction Example :

```
_id: ObjectId("616b2a6e327e236241784d7d")
Payment_gateway: 100
clientID: 12
clientID2: 13
T_type: "D"
accountID: 22
cardID: 32
amount: 100
merchant: "amazone"
timestamp: "20-1-2021"
Cooresponding_TID: "616b2a70327e236241784d7f"
```

>

```
_id: ObjectId("616b2a70327e236241784d7f")
Payment_gateway: 0
clientID: 13
clientID2: 12
T_type: "C"
accountID: 22
cardID: 32
amount: 100
merchant: "amazone"
timestamp: "20-1-2021"
Cooresponding_TID: "616b2a6e327e236241784d7d"
```

POST http://localhost:8888

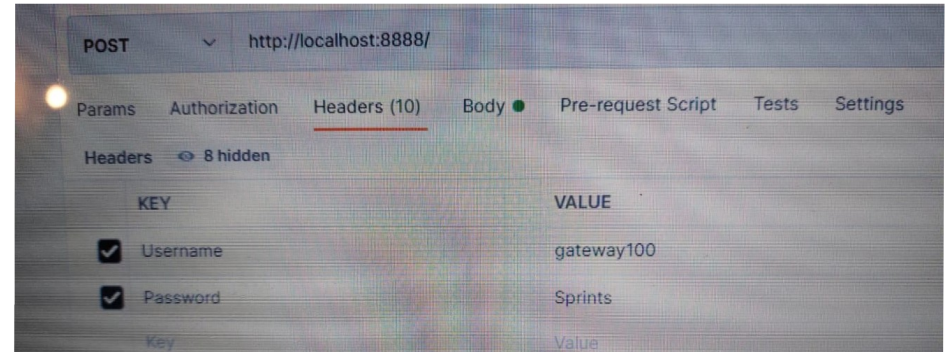
arams Authorization Headers (8) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** v

```
1 {
2   "cardid": "32",
3   "amount": "100",
4   "merchant": "amazone",
5   "Payment_gateway_ID": "100",
6   "timestamp": "16/10/2021",
7   "ccv": "123"
8 }
```

User Authentication example:

```
_id: ObjectId("616dc1e201b9282a508cb5df")  
Username: "gateway100"  
Passw...: "$2a$10$4qycTijSKu0x501b4oGPzeGpNRYgQgURUbWE0K  
oqKD1pVHYGVsIu"
```



Thank you