

REPORT

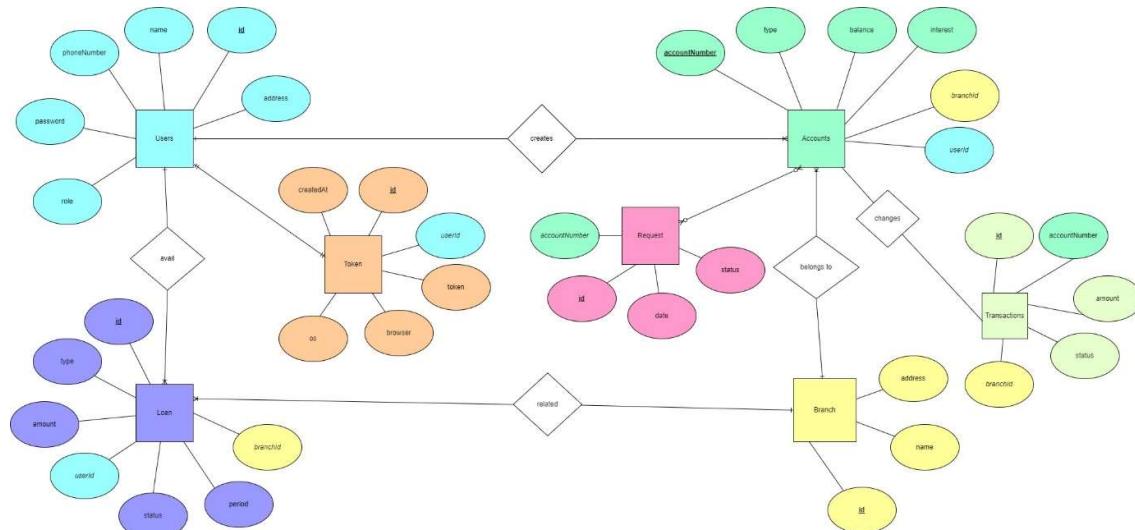
BANK MANAGEMENT SYSTEM

Mithesh A

1) DATABASE

The database consists of the following tables:

- Users
- Accounts
- Loan
- Transactions
- Branch
- Request
- Token



Attributes of the tables:

Users – **id**, name, phoneNumber, password, address, role

Accounts – **accountNumber**, type, balance, interest, branchId, userId, active

Loan – **id**, type, amount, userId, status, period, branchId

Transactions – **id**, accountNumber, amount, status, type, date

Branch – **id**, name, address

Request – **id**, accountNumber, date, status

Databases created in MySql

Users

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
id	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	auto_increment
name	varchar(50)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
phoneNumber	char(10)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
password	varchar(256)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
address	varchar(150)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
role	char(1)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	

The role 0,1 corresponds to customer and manager respectively.

Accounts

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
accountNumber	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	auto_increment
type	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
balance	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
interest	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
branchId	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
userId	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
active	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	

The accounts type can be 1,2,3 which means savings, business and loan accounts respectively.

The active status of the account can be 0,1,2 which means closed, active, requesting to close the account respectively.

Foreign Key Name	Referenced Table
fk_accounts_branch	'zoho_bank'.'branch'
fk_accounts_user	'zoho_bank'.'users'

Loans

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
id	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	auto_increment
type	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
amount	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
userId	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
status	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
period	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
branchId	int		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	

Foreign Key Name	Referenced Table
fk_loan_branch	'zoho_bank'.'branch'
fk_loan_user	'zoho_bank'.'users'

The loan type can be 0,1,2 which corresponds to home, vehicle and personal loan respectively.

The loan status can be 0,1,2 which means the customer requests for loan, the loan approved by the manager and the manager rejected the loan request respectively.

Transactions

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
id	int		NO			select,insert,update,references	
accountNumber	int		NO			select,insert,update,references	
amount	int		NO			select,insert,update,references	
status	varchar(50)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
type	int		NO			select,insert,update,references	
date	varchar(100)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	

Foreign Key Name	Referenced Table
fk_totrans_accounts	'zoho_bank'.`accounts`

The transaction type can be 1,2,3 which means deposit, withdraw and loan transactions.

Branch

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
id	int		NO			select,insert,update,references	
name	varchar(50)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
address	varchar(150)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	

Requests

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
id	int		NO			select,insert,update,references	
accountNumber	int		NO			select,insert,update,references	
date	varchar(100)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
status	int		NO			select,insert,update,references	

Foreign Key Name	Referenced Table
fk_req_acc_acnum	'zoho_bank'.`accounts`

The status of request table can be 1,2,3 which means requesting to close the account, approved, rejected

Token

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
browser	varchar(50)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
createdat	varchar(45)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
id	varchar(60)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
os	varchar(50)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
token	varchar(256)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
userId	int		NO			select,insert,update,references	

Foreign Key Name	Referenced Table
fk_token_users	'zoho_bank'.`users`

2) FRONTEND, BACKEND

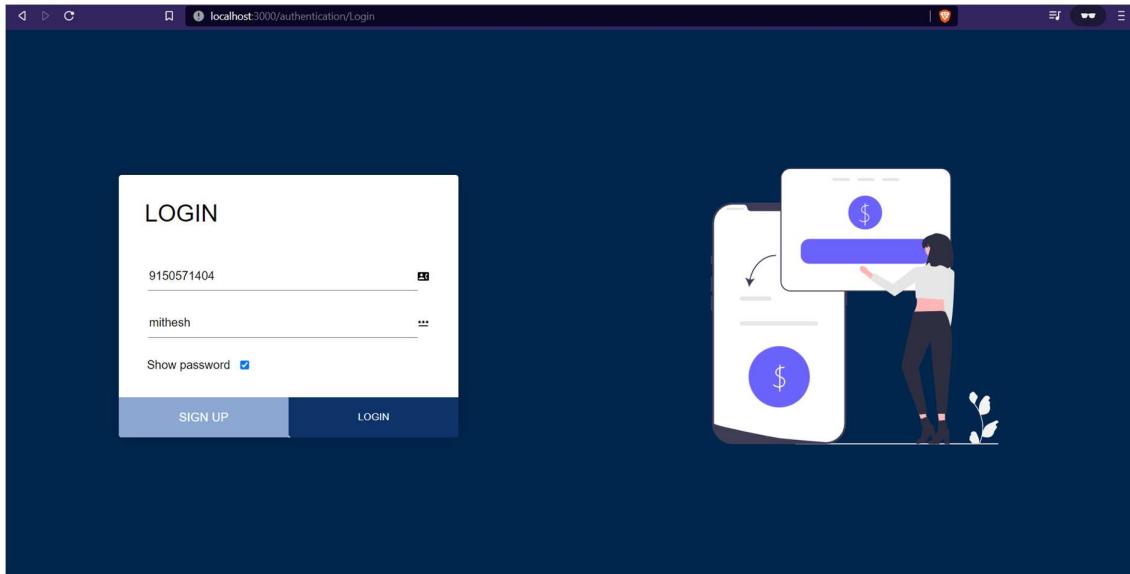
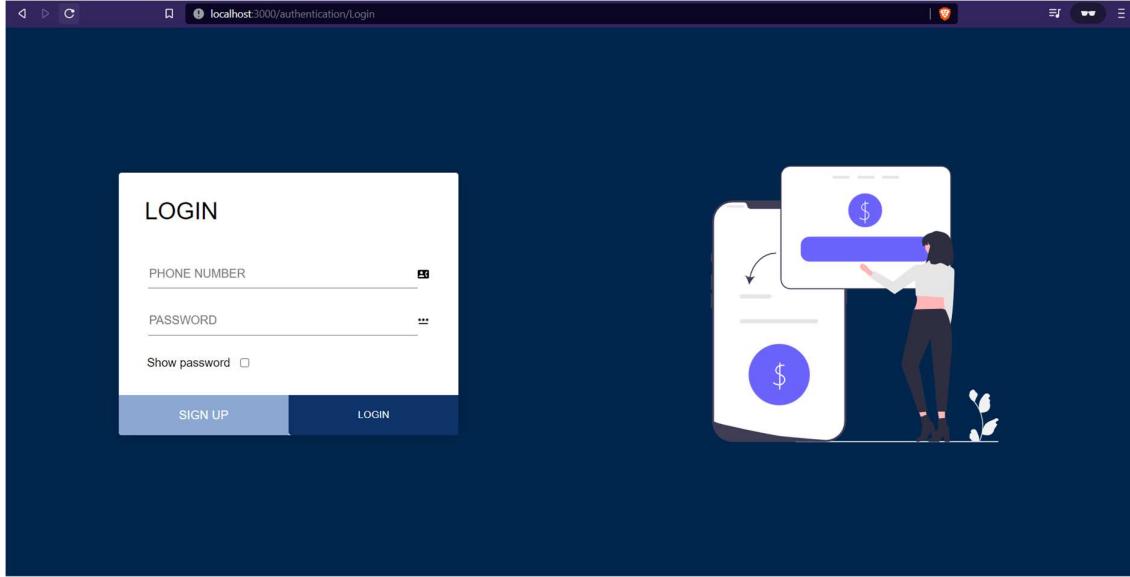
React is used to do the frontend part of this project. It promotes the development of reusable UI components that display dynamic data. React can power native apps using React Native and can render on the server using Node. The main reason I used react is that it uses virtual DOM (Document Object Model) which is a JavaScript object which is faster than regular DOM. Managers and customers uses two separate UI with different functionalities depending on the role. The login page, register page comes under authentication. The login page with phone number and password leads to the manager/customer UI depending on the type of role they play. The role field is added to the users table where 0 means customer, 1 means manager.

The dependencies used in the frontend are

```
"dependencies": {  
  "@testing-library/jest-dom": "^5.16.4",  
  "@testing-library/react": "^13.3.0",  
  "@testing-library/user-event": "^13.5.0",  
  "axios": "^0.27.2",  
  "react": "^18.2.0",  
  "react-dom": "^18.2.0",  
  "react-icons": "^4.4.0",  
  "react-router-dom": "^6.3.0",  
  "react-scripts": "^5.0.1",  
  "react-toastify": "^9.0.7",  
  "web-vitals": "^2.1.4"  
},
```

NodeJS is used for doing backend part of this project. Node JS is simpler than Java, easier for code writing and ideal for full-stack developers.

LOGIN PAGE AND REGISTER PAGE



The login page backend work is done with the help of token-based authentication (JWT – JSON Web tokens) where the user id and role are mapped together so that the redirections will be done based on their role. The token will get expired in 24hrs. Along with this session management is done in such a way he can see the active sessions, and can terminate other sessions.

```

index.js          guard.js        authentication.js ● admin.js      customer.js    csrf.js
controllers > authentication.js > login > login
20 exports.login = async (req, res) => {
21   if(!req.body.phoneNumber || !req.body.password){
22     return res.status(401).json({ message: "Credentials cannot be empty"});
23   }
24
25   try {
26     const user = await prisma.users.findUnique({where: {phoneNumber: req.body.phoneNumber}});
27     if(!user)
28       return res.status(401).json({message: "Couldn't find your phone number. Try again or create a new account."});
29
30     const isPasswordSame = await bcrypt.compare(req.body.password, user.password);
31
32     if (!isPasswordSame)
33       return res.status(401).json({ message: "Wrong password."});
34
35     const token = jwt.sign({
36       id: user.id,
37       role: user.role
38     },process.env.TOKEN_SECRET,{ expiresIn: '24h' });
39
40   );
41
42   res.cookie("token", token, { maxAge: 24 * 60 * 60 * 1000, httpOnly: true });
43   // res.cookie("CSRF-TOKEN", req.csrfToken(), { secure: false });
44
45   return res.status(200).json({
46     user: {
47       id: user.id,
48       name: user.name,
49       address: user.address,
50       phoneNumber: user.phoneNumber,
51       role: user.role
52     }
53   });
54 }
55 catch(e) {
56 }

```

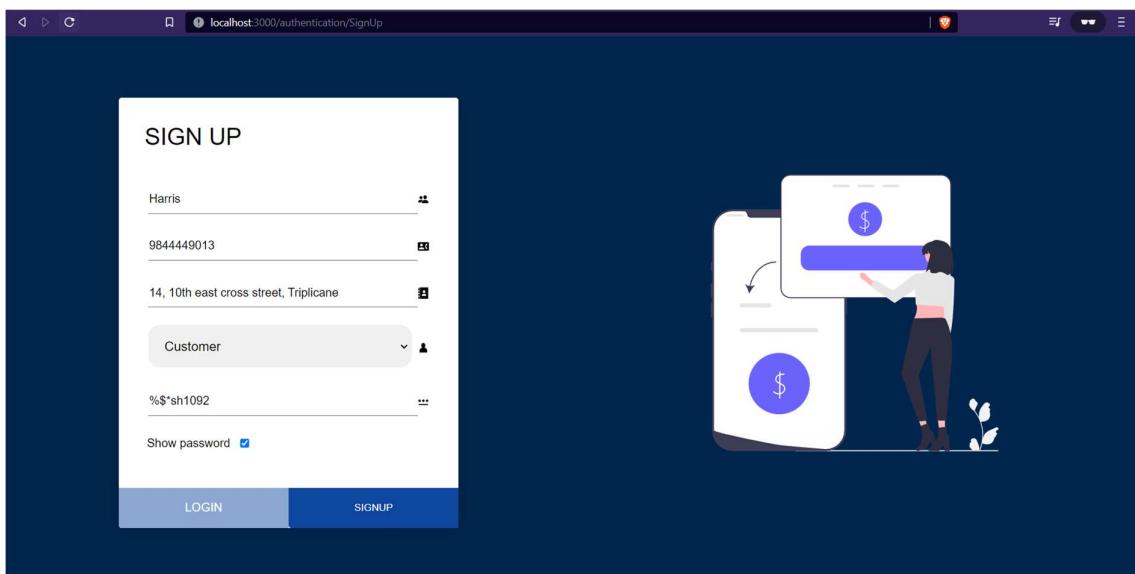
```

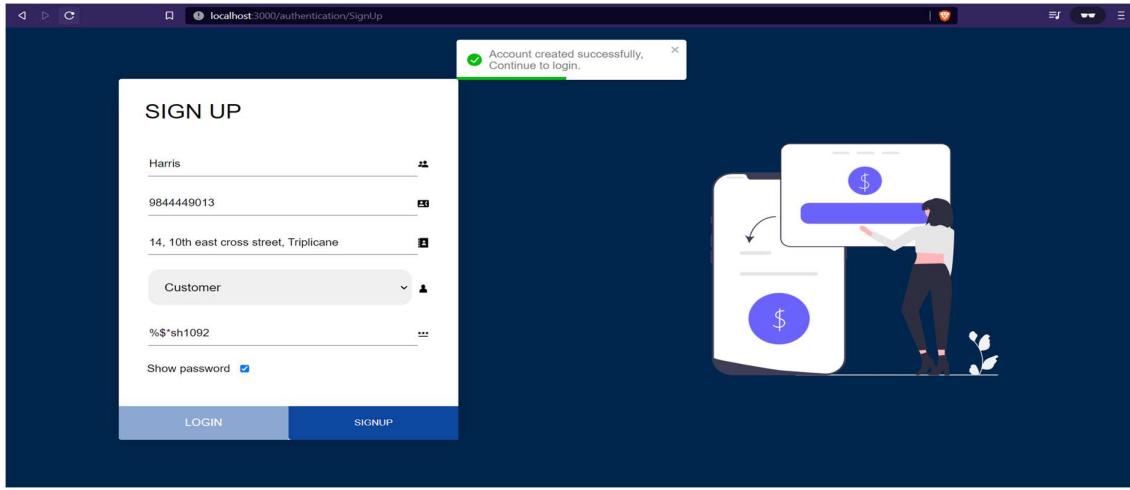
module.exports = (role) => async (req, res, next) => {
  const token = req.cookies.token;

  if (!token)
    return res.status(401).json({message: 'Access token Missing'});

  try {
    const decoded = JwtDecode(token);
    const user = await prisma.users.findUnique({where: {id: decoded.id}});
    jwt.verify(token, process.env.TOKEN_SECRET, async (err) => {
      if (err) {
        return res.status(401).json({message: "Token error - " + err.message});
      } else {
        if(!role.includes(user.role))
          return res.status(401).json({message: 'Access Denied'});
        req.user = user;
        next();
      }
    });
  }
  catch(e) {
    if(e instanceof JwtDecode.InvalidTokenError)
      res.status(401).json({message: "Token error - Invalid access token"});
    else {
      console.log(e);
      res.status(500).json({message: "Internal server error"});
    }
  }
}

```





For security purpose, the password is hashed and saved in db. The hashing is done using blowfish encryption algorithm.

```

index.js      guard.js      authentication.js M ●   admin.js      customer.js      csrf.js
controllers > authentication.js > register > register
63  exports.register = async (req, res) => {
64    if(!req.body.phoneNumber || !req.body.password || !req.body.address || !req.body.name || !req.body.role ){
65      return res.status(401).json({ message: "Credentials Cannot be empty"});
66    }
67    try {
68      const user = await prisma.users.findUnique({ where: {phoneNumber: req.body.phoneNumber}});
69
70      if(user)
71        return res.status(401).json({message: "Phone Number is already registered. Try another"});
72
73      if(req.body.password.length < 5)
74        return res.status(411).json({message: "Use 5 characters or more for your password"});
75
76      if(req.body.role !== "1" && req.body.role !== "0")
77        return res.status(411).json({message: "Role should be either 1 or 0"});
78
79      if(req.body.phoneNumber.length !== 10 )
80        return res.status(411).json({message: "This phone number format is not recognised. Phone number should be 10 digits"});
81
82      const hash = await bcrypt.hash(req.body.password, 12);
83
84      await prisma.users.create({
85        data: {
86          name: req.body.name,
87          phoneNumber: req.body.phoneNumber,
88          address: req.body.address,
89          password: hash,
90          role: req.body.role
91        }
92      });
93
94      // res.cookie("CSRF-TOKEN", req.csrfToken(), { secure: false });
95      return res.status(200).json({ message: "Account created successfully, Continue to login." });
96
97    } catch(e) {
98      console.log(e);
99      res.status(500).json({message:"internal server error"});

```

DASHBOARD

The customer/manager dashboard is designed in such a way that all functionalities are displayed clearly. In the accounts tab, the customer can see his/her savings and business accounts along with the loan accounts.

localhost:3000/dashboard/Customer/account

DILLI
Customer

LOGOUT

Account

Transaction

Deposit money

Withdraw money

Schedule for EMI

Create Account

Reset password

SAVINGS AND BUSINESS ACCOUNTS

10013 BALANCE : 26000 BRANCH ID : 10 65, Car St, Narayana Krishnaraja Puram, Adyar, Chennai, Tamil Nadu 600005 <i>Savings Account, Active</i> CLOSE	10014 BALANCE : 25000 BRANCH ID : 10 65, Car St, Narayana Krishnaraja Puram, Adyar, Chennai, Tamil Nadu 600005 <i>Business Account, Closed</i> CLOSE	10015 BALANCE : 19000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i> CLOSE	10016 BALANCE : 1000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i> CLOSE
10017 BALANCE : 10000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i>	10018 BALANCE : 10500 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i>	10019 BALANCE : 12000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i>	10020 BALANCE : 9800 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Savings Account, Active</i>

localhost:3000/dashboard/Manager/report

MITHESH
Manager

LOGOUT

View Report

Add Branches

Edit branches

Loan Requests

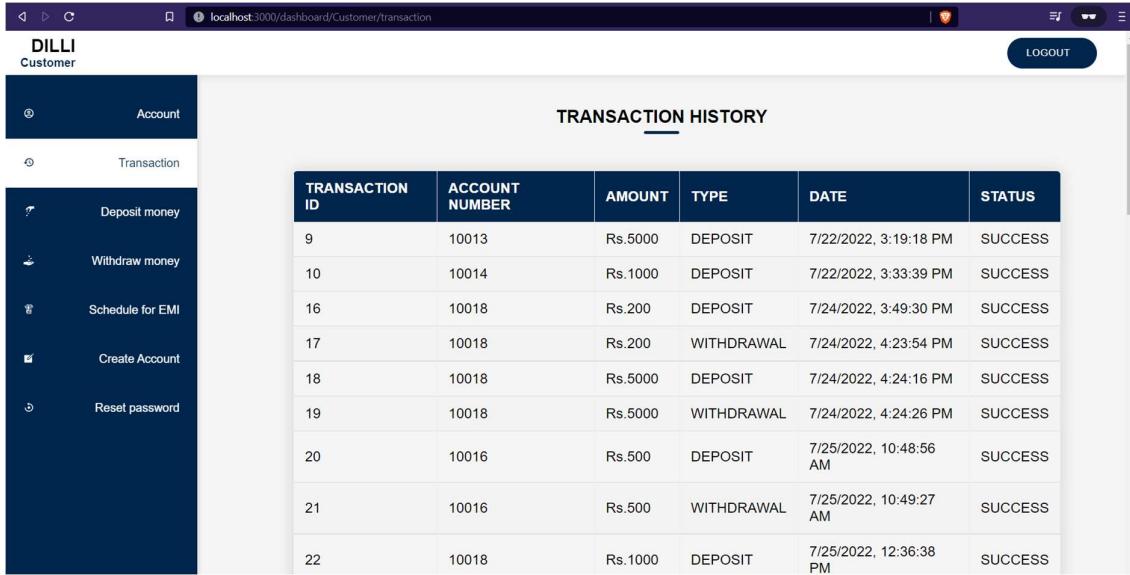
Close account

Reset password

REPORT

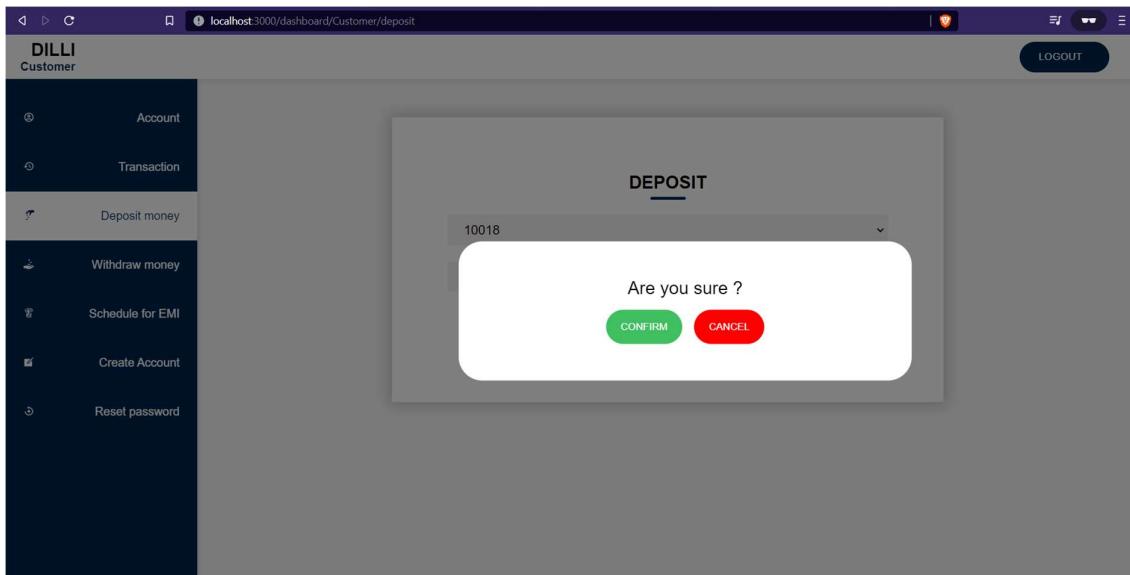
BRANCH ID	BRANCH NAME	NUMBER OF ACCOUNTS	AMOUNT DEPOSITED	LOANS AVAILED
7	ABC chromepet	1		5000
8	ABC Kottur	6	20000	
10	ABC Adyar	5	51000	100000
11	ABC Main Branch Office	11	104945	

DEPOSIT, WITHDRAW AND TRANSACTION HISTORY

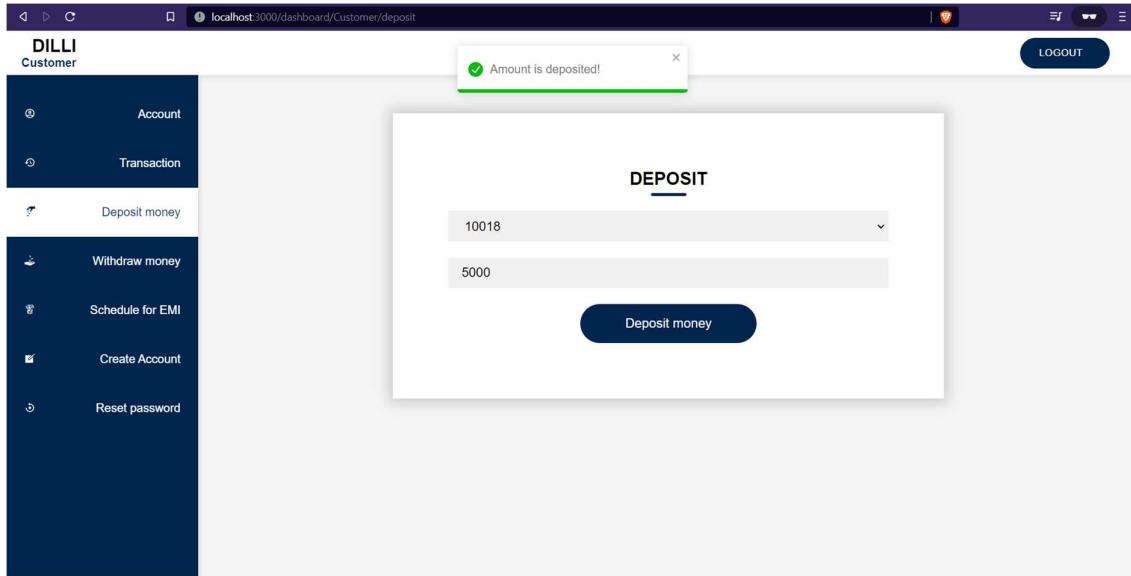


A screenshot of a web browser showing the transaction history for a customer named DILLI. The URL is `localhost:3000/dashboard/Customer/transaction`. The page has a dark blue header with the name "DILLI" and "Customer". On the left, there is a sidebar with icons for Account, Transaction, Deposit money, Withdraw money, Schedule for EMI, Create Account, and Reset password. The main content area is titled "TRANSACTION HISTORY" and contains a table with the following data:

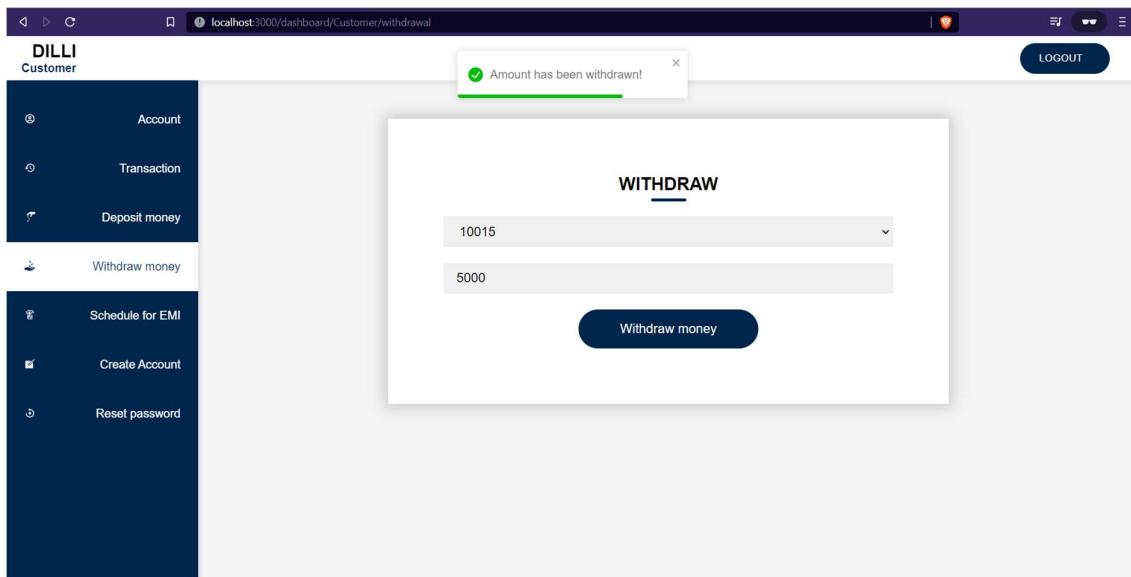
TRANSACTION ID	ACCOUNT NUMBER	AMOUNT	TYPE	DATE	STATUS
9	10013	Rs.5000	DEPOSIT	7/22/2022, 3:19:18 PM	SUCCESS
10	10014	Rs.1000	DEPOSIT	7/22/2022, 3:33:39 PM	SUCCESS
16	10018	Rs.200	DEPOSIT	7/24/2022, 3:49:30 PM	SUCCESS
17	10018	Rs.200	WITHDRAWAL	7/24/2022, 4:23:54 PM	SUCCESS
18	10018	Rs.5000	DEPOSIT	7/24/2022, 4:24:16 PM	SUCCESS
19	10018	Rs.5000	WITHDRAWAL	7/24/2022, 4:24:26 PM	SUCCESS
20	10016	Rs.500	DEPOSIT	7/25/2022, 10:48:56 AM	SUCCESS
21	10016	Rs.500	WITHDRAWAL	7/25/2022, 10:49:27 AM	SUCCESS
22	10018	Rs.1000	DEPOSIT	7/25/2022, 12:36:38 PM	SUCCESS



A screenshot of a web browser showing a deposit confirmation dialog. The URL is `localhost:3000/dashboard/Customer/deposit`. The page has a dark blue header with the name "DILLI" and "Customer". On the left, there is a sidebar with icons for Account, Transaction, Deposit money, Withdraw money, Schedule for EMI, Create Account, and Reset password. A modal dialog box is centered on the screen with the title "DEPOSIT". It displays the account number "10018" and the message "Are you sure ?" with two buttons: "CONFIRM" (green) and "CANCEL" (red).



The deposit, withdraw functionality is done by first finding unique accounts in account table, and updating the balance according to the input to the specific selected account. Then the transaction table is updated with the selected account number, the amount deposited/ withdrawn, status showing “SUCCESS”, date is fetched in the UTC format. The status will show “FAILURE” if the requesting amount will cause the balance to be lesser than 1000. This constraint is maintained so that, if the person wants to close the account. The minimum balance 1000 rupees will get decremented from the closing account.



The screenshot shows a web browser window with the URL localhost:3000/dashboard/Customer/transaction. The page title is "DILLI Customer". On the left, there is a sidebar menu with the following items:

- Account
- Transaction
- Deposit money
- Withdraw money
- Schedule for EMI
- Create Account
- Reset password

On the right, there is a table titled "TRANSACTION HISTORY" with the following columns: ID, ACCOUNT NO., AMOUNT, TYPE, DATE, AND STATUS. The data is as follows:

ID	ACCOUNT NO.	AMOUNT	TYPE	DATE	STATUS
43	10020	Rs.200	WITHDRAWAL	8/1/2022, 3:39:35 PM	SUCCESS
44	10019	Rs.3000	DEPOSIT	8/1/2022, 3:42:34 PM	SUCCESS
45	10019	Rs.500	DEPOSIT	8/1/2022, 3:42:47 PM	SUCCESS
46	10019	Rs.500	WITHDRAWAL	8/1/2022, 3:42:58 PM	SUCCESS
47	10015	Rs.1500	DEPOSIT	8/1/2022, 5:07:59 PM	SUCCESS
48	10015	Rs.8500	WITHDRAWAL	8/1/2022, 5:08:13 PM	SUCCESS
49	10015	Rs.30000	WITHDRAWAL	8/1/2022, 5:08:44 PM	FAILURE
50	10015	Rs.1000	WITHDRAWAL	8/1/2022, 5:14:11 PM	SUCCESS
51	10046	Rs.5645	DEPOSIT	8/1/2022, 5:16:22 PM	SUCCESS
52	10013	Rs.28000	WITHDRAWAL	8/2/2022, 10:14:06 AM	FAILURE
53	10013	Rs.28000	WITHDRAWAL	8/2/2022, 10:15:00 AM	FAILURE
54	10018	Rs.5000	DEPOSIT	8/2/2022, 12:51:47 PM	SUCCESS
55	10015	Rs.5000	WITHDRAWAL	8/2/2022, 12:53:22 PM	SUCCESS

The deposit and withdrawal transactions are reflected in transaction history tab.

APPLY FOR LOANS

The screenshot shows a web browser window with the URL localhost:3000/dashboard/Customer/account. The page title is "SAMANTHA Customer". On the left, there is a sidebar menu with the following items:

- Account
- Transaction
- Deposit money
- Withdraw money
- Apply for Loan
- Create Account
- Reset password

On the right, there are four tabs representing different account types:

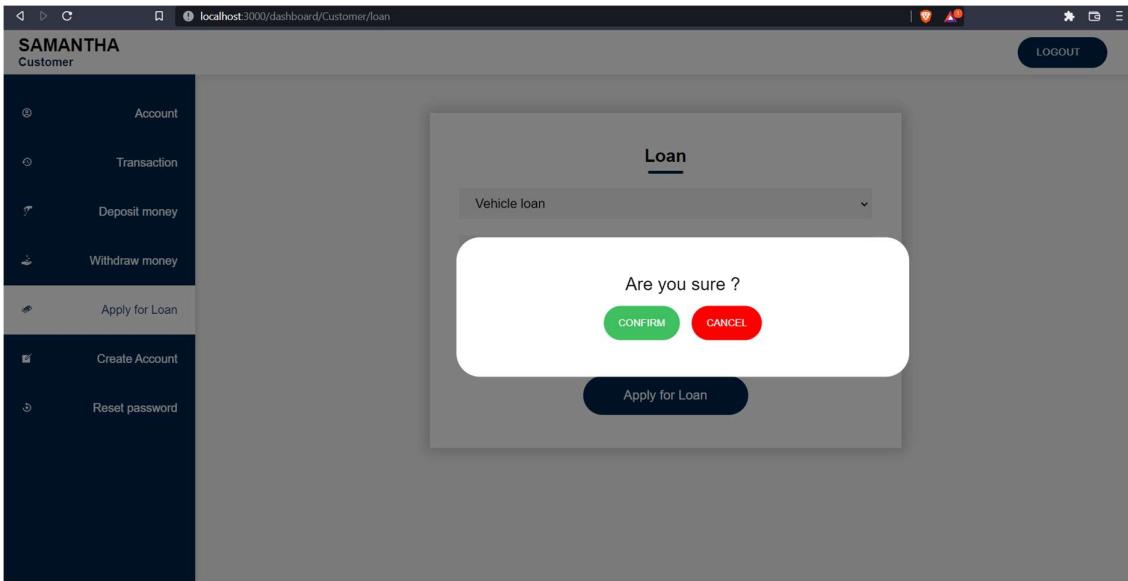
- Nagar, Chennai - 39 Savings Account, Active
- Nagar, Chennai - 39 Savings Account, Active
- Nagar, Chennai - 39 Business Account, Active
- Nagar, Kotturpuram, Chennai, Tamil Nadu 600085 Savings Account, Active

A modal window is open for the first account, showing account number 10009, balance 10000, branch ID 8, address 14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085, and account status Business Account, Active. A red "CLOSE" button is at the bottom of the modal.

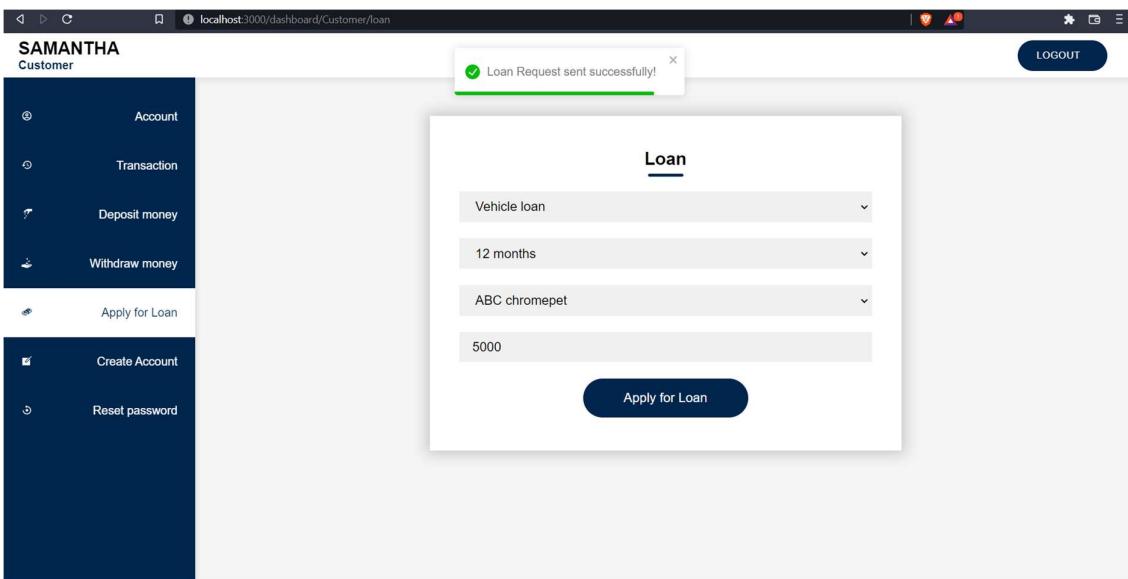
Below the modal, there is a section titled "LOAN ACCOUNTS" with a horizontal line underneath.

The apply for loan will be visible only if there is no unpaid loan is pending.

Sending requests



The appyLoan functionality will leads to the creation of request in the loan table with the status being 0, other details fetched from input. This request can be viewed by the manager who will accept/reject the loan requests.



This loan request is sent to the manager. The manager can view the requests in his dashboard using find many relationships where the id, status, amount, type, period and users are selected. The loan requests can be updated using find unique function where the id is selected which includes users, then

- If the manager accepts, then it will lead to the creation of account in accounts table with type 3(loan account) and updating loan account with the status changing from 0 to 1.
- If the manager rejects, the loan table is updated with status changing from 0 to 2.

The screenshot shows a web browser window with the URL `localhost:3000/dashboard/Manager/loanrequest`. The title bar displays "MITHESH Manager". On the left, a sidebar menu lists: View Report, Add Branches, Edit branches, Loan Requests, Close account, and Reset password. The main content area is titled "LOAN" and contains a table:

CUSTOMER ID	CUSTOMER NAME	AMOUNT	PERIOD	ACTION
29	Dilli	123123	36	REJECTED
32	samantha	5000	12	<button>ACCEPT</button> <button>REJECT</button>

If the manager accepts, the loan account will be created and EMI SCHEDULE tab will replace the APPLY FOR LOAN tab in customer's dashboard. If the manager rejects, then the customer can apply again if he/she wishes.

The screenshot shows the same web browser window and sidebar as the previous one. The main content area is titled "LOAN" and contains a table:

CUSTOMER ID	CUSTOMER NAME	AMOUNT	PERIOD	ACTION
29	Dilli	123123	36	REJECTED
32	samantha	5000	12	ACCEPTED

SAMANTHA
Customer

[LOGOUT](#)

[Account](#)

[Transaction](#)

[Deposit money](#)

[Withdraw money](#)

[Schedule for EMI](#)

[Create Account](#)

[Reset password](#)

EMI SCHEDULE

MONTH	BEGINNING LOAN BALANCE	EMI	MONTHLY INTEREST	PRINCIPAL	OUTSTANDING BALANCE
1	5000	437	37	400	4600
2	4600	437	34	403	4197
3	4197	437	31	406	3791
4	3791	437	28	409	3382
5	3382	437	25	412	2970
6	2970	437	22	415	2555
7	2555	437	19	418	2137
8	2137	437	16	421	1716
9	1716	437	12	425	1291
10	1291	437	9	428	863
11	863	437	6	431	432

The customer can apply for another loan only if he repays the current loan.

SAMANTHA
Customer

[LOGOUT](#)

[Account](#)

[Transaction](#)

[Deposit money](#)

[Withdraw money](#)

[Schedule for EMI](#)

[Create Account](#)

[Reset password](#)

BALANCE : 10000

BRANCH ID : 8

14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085

Business Account, Active

[CLOSE](#)

LOAN ACCOUNTS

10050

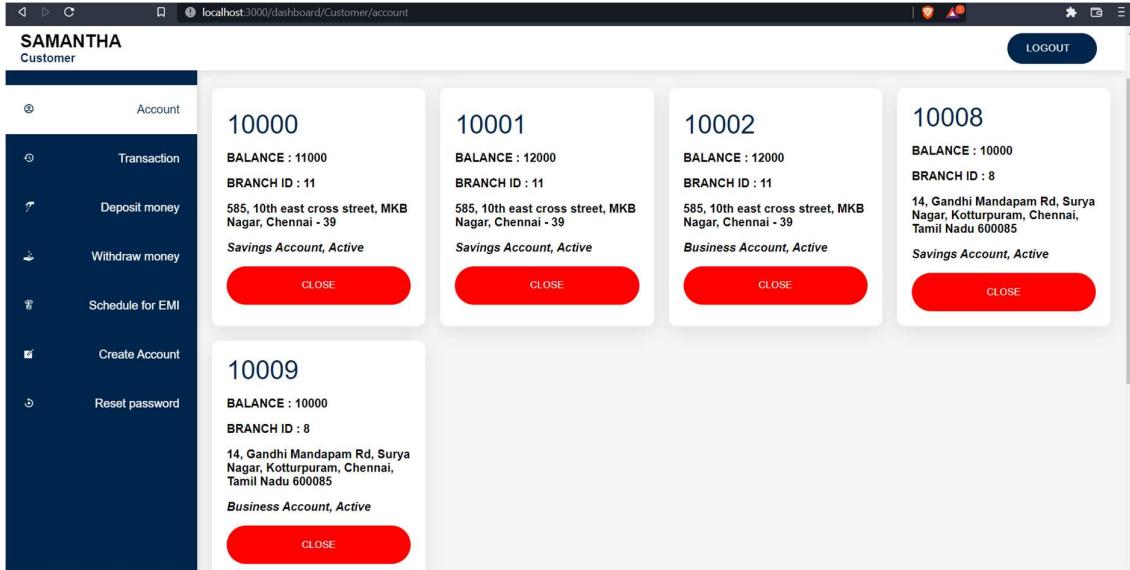
BALANCE : 5000

BRANCH ID : 7

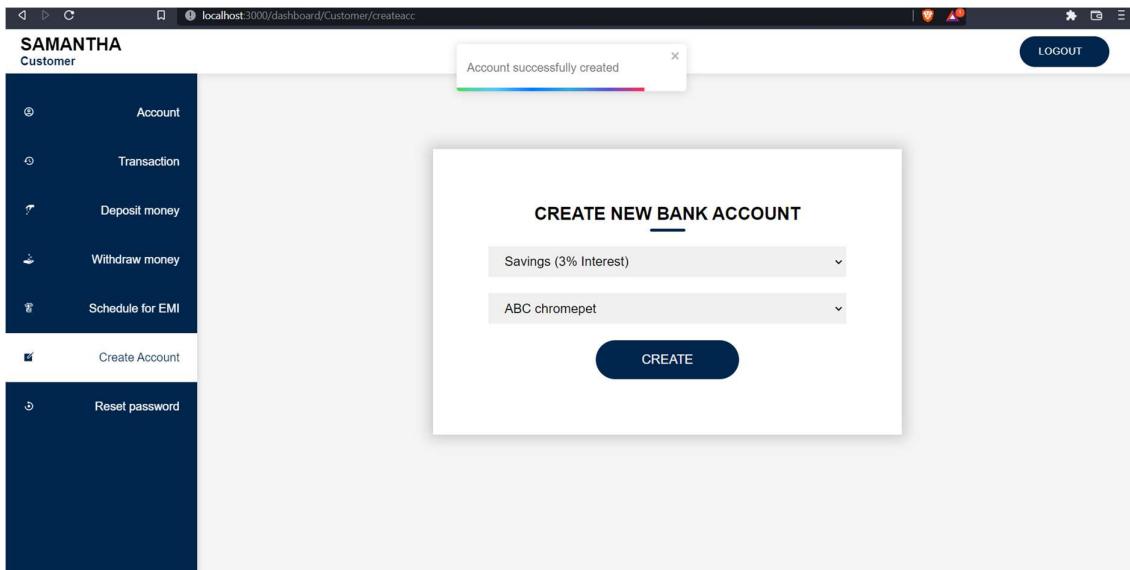
MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044

Loan Account, Active

CREATING NEW ACCOUNTS



The customer can create a bank account of one of the two types available: savings, business account in any of the available branches. The accounts are created in the accounts table with the type of accounts and branch fetched from the input.



The screenshot shows a web-based customer dashboard titled "SAMANTHA Customer". On the left, a sidebar menu lists options: Account (selected), Transaction, Deposit money, Withdraw money, Schedule for EMI, Create Account, and Reset password. The main area displays eight account cards arranged in two rows of four. Each card contains an account number, balance, branch ID, address, account type, and a red "CLOSE" button.

Account Number	Balance	Branch ID	Address	Type
10000	11000	11	585, 10th east cross street, MKB Nagar, Chennai - 39	Savings Account, Active
10001	12000	11	585, 10th east cross street, MKB Nagar, Chennai - 39	Savings Account, Active
10002	12000	11	585, 10th east cross street, MKB Nagar, Chennai - 39	Business Account, Active
10008	10000	8	14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085	Savings Account, Active
10009	10000	8	14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085	Business Account, Active
10051	1000	7	MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044	Savings Account, Active

The account number is automatically generated in the database.

CLOSING THE ACCOUNT

This screenshot is similar to the one above, showing the same account details. A modal window is open in the center, displaying a green progress bar and the text "Request sent successfully!". The rest of the interface is identical to the first screenshot.

On requesting to close the bank account, the status of the account is changed to REQUESTED TO CLOSE so that no two requests to close the same account occur.

10000 BALANCE : 11000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Savings Account, Active</i>	10001 BALANCE : 12000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Savings Account, Active</i>	10002 BALANCE : 12000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i>	10008 BALANCE : 10000 BRANCH ID : 8 14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085 <i>Savings Account, Active</i>
10009 BALANCE : 10000 BRANCH ID : 8 14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085 <i>Business Account, Active</i>	10051 BALANCE : 1000 BRANCH ID : 7 MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044 <i>Savings Account, Requested to close</i>		

The request can be viewed by the manager with the help of find many relationships where the id, status and a nested select of account number, users from accounts are selected. The updating request with the help of find unique were based on the id, accounts are included. If the manager accepts, then the account table is updated with the amount decrementing by 1000 and changing the active state from 1 to 0. If the manager rejects, then the account table is updated with the active state remains 1 and the request table status is changed.

17	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10021	ACCEPTED
18	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10013	REJECTED
19	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10013	REJECTED
20	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10013	REJECTED
21	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10015	REJECTED
22	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10047	ACCEPTED
23	samantha	8667531445	pallavaram	10051	ACCEPT REJECT

On accepting the request, the customer's account balance will be decremented by 1000 in charge for closing his account. If the manager rejects the request, then the customer can do his regular deposit and withdraw activities.

localhost:3000/dashboard/Manager/closeacc

MITHESH
Manager

[View Report](#)

[Add Branches](#)

[Edit branches](#)

[Loan Requests](#)

[Close account](#)

[Reset password](#)

[Logout](#)

mandapam road

17	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10021	ACCEPTED
18	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10013	REJECTED
19	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10013	REJECTED
20	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10013	REJECTED
21	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10015	REJECTED
22	Dilli	9841119013	14, Thenpennai Block, Anna university staff quarters, Gandhi mandapam road	10047	ACCEPTED
23	samantha	8667531445	pallavaram	10051	ACCEPTED

localhost:3000/dashboard/Customer/account

SAMANTHA
Customer

[Account](#)

[Transaction](#)

[Deposit money](#)

[Withdraw money](#)

[Schedule for EMI](#)

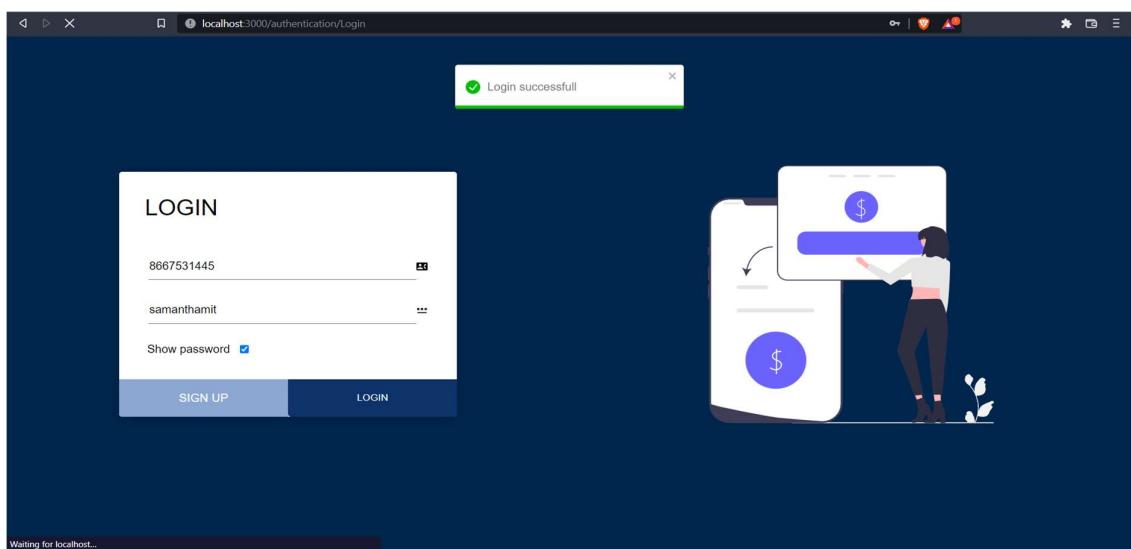
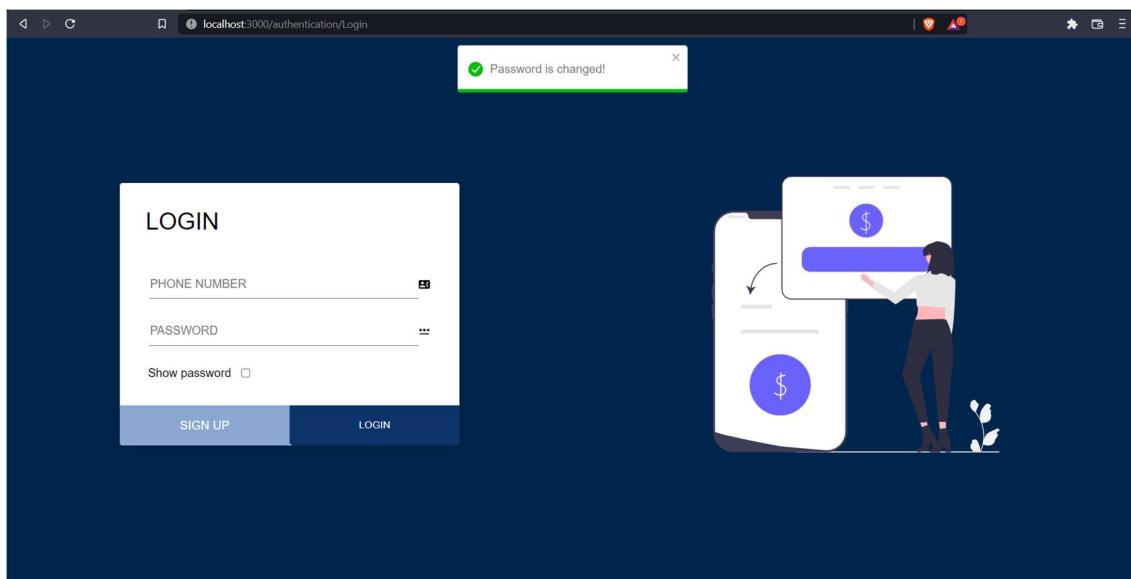
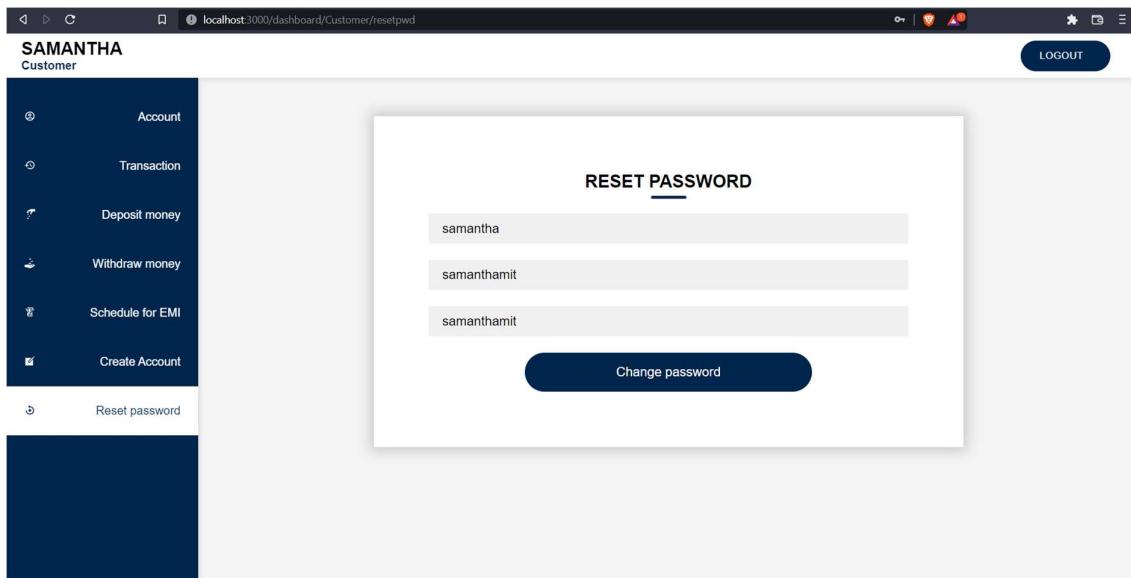
[Create Account](#)

[Reset password](#)

[Logout](#)

10000 BALANCE : 11000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Savings Account, Active</i> CLOSE	10001 BALANCE : 12000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Savings Account, Active</i> CLOSE	10002 BALANCE : 12000 BRANCH ID : 11 585, 10th east cross street, MKB Nagar, Chennai - 39 <i>Business Account, Active</i> CLOSE	10008 BALANCE : 10000 BRANCH ID : 8 14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085 <i>Savings Account, Active</i> CLOSE
10009 BALANCE : 10000 BRANCH ID : 8 14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085 <i>Business Account, Active</i> CLOSE	10051 BALANCE : 0 BRANCH ID : 7 MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044 <i>Savings Account, Closed</i>		

Both the customer and manager can reset their passwords, by mentioning the recent old password. The user's table is updated with the new password which is hashed using bcrypt (blow fish encryption algorithm) based on the id. The cookie is cleared so that after changing the password, the website get automatically logout.



ADDING, EDITING AND DELETING BRANCHES.

ADDING BRANCH

The branch is created in the branch table with the name, address.

A screenshot of a web application interface titled "REPORT". The left sidebar is dark blue with white text, showing navigation options: "View Report", "Add Branches", "Edit branches", "Loan Requests", "Close account", and "Reset password". The user is identified as "MITHESH Manager". The main content area is titled "REPORT" and contains a table with the following data:

BRANCH ID	BRANCH NAME	NUMBER OF ACCOUNTS	AMOUNT DEPOSITED	LOANS AVAILED
7	ABC chromepet	2	0	5000
8	ABC Kottur	6	20000	
10	ABC Adyar	5	51000	100000
11	ABC Main Branch Office	11	104945	
27	ABC poonamalle	3	3000	

A screenshot of a web application interface titled "ADD BRANCH". The left sidebar is dark blue with white text, showing navigation options: "View Report", "Add Branches", "Edit branches", "Loan Requests", "Close account", and "Reset password". The user is identified as "MITHESH Manager". A modal dialog box is open in the center, containing the message "Branch successfully created" with a progress bar. Below the message, there are two input fields: "ABC Mumbai" in the first and "Antilia, Ambani Tower, Altamount Road, Cumballa Hill, Mumbai - 400026." in the second. At the bottom of the dialog is a blue button labeled "Add branch".

The screenshot shows a web-based dashboard for a financial institution. The top navigation bar includes icons for back, forward, search, and refresh, followed by the URL 'localhost:3000/dashboard/Manager/report'. On the right side of the header are links for 'LOGOUT' and other user options. The main content area is titled 'REPORT' in bold capital letters. To the left is a sidebar with a dark blue background containing several menu items: 'View Report' (highlighted in blue), 'Add Branches', 'Edit branches', 'Loan Requests', 'Close account', and 'Reset password'. The main content area displays a table with the following data:

BRANCH ID	BRANCH NAME	NUMBER OF ACCOUNTS	AMOUNT DEPOSITED	LOANS AVAILED
7	ABC chromepet	2	0	5000
8	ABC Kottur	6	20000	
10	ABC Adyar	5	51000	100000
11	ABC Main Branch Office	11	104945	
27	ABC poonamalle	3	3000	
28	ABC Mumbai			

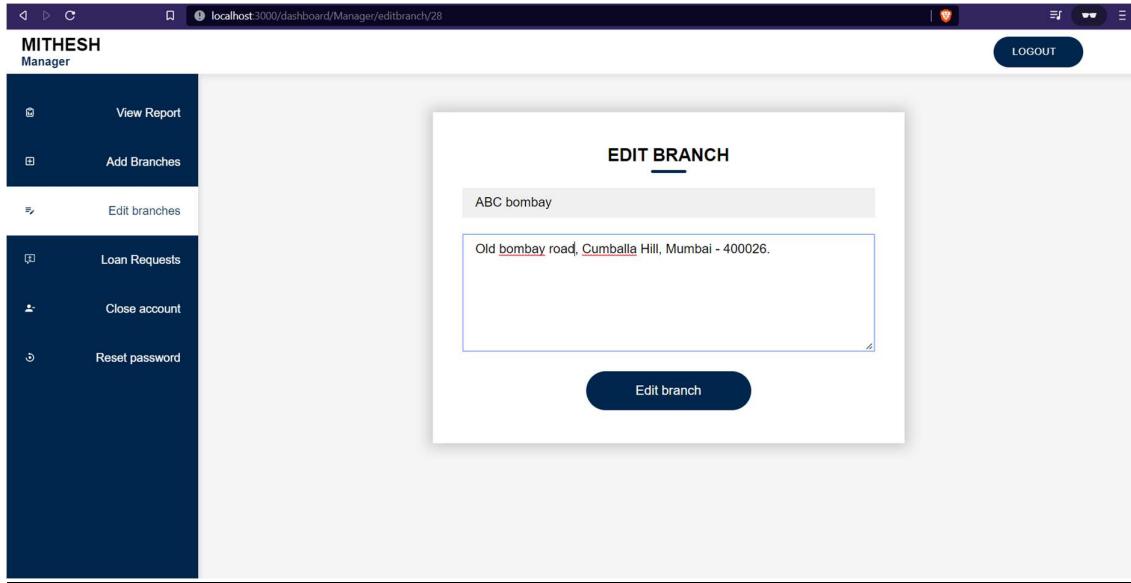
The report is generated with the help of group by function on accounts table by branch id, where the account number, and the balance amount in savings, business accounts and loan accounts are fetched and displayed in the report page.

EDITING BRANCHES

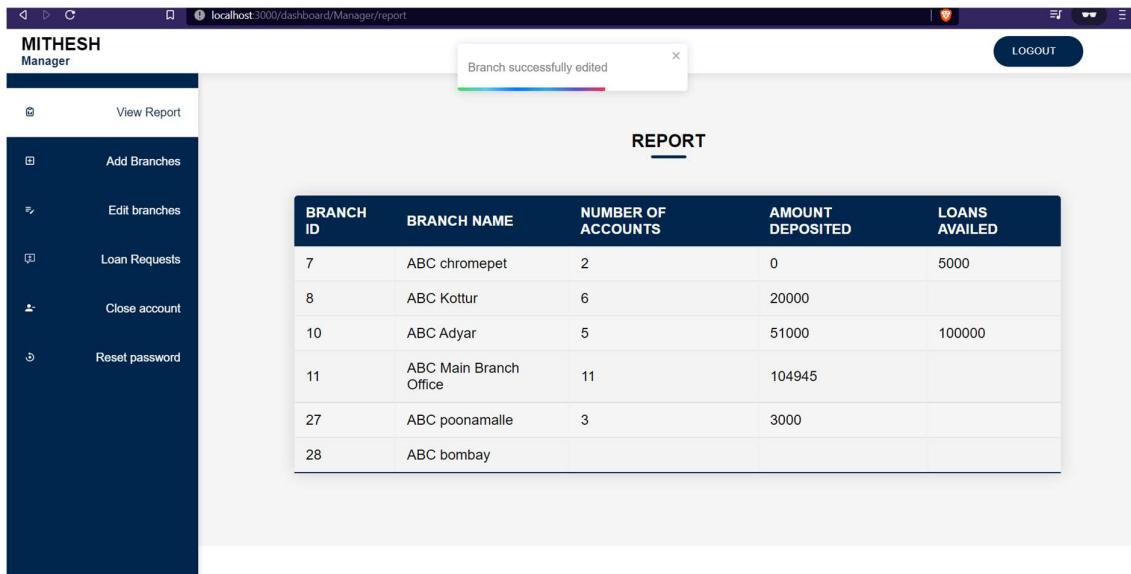
Changing ABC Mumbai to Bombay and updating the address

The screenshot shows a 'EDIT BRANCH' page from a web application. The top navigation bar is identical to the previous screenshot, with the URL 'localhost:3000/dashboard/Manager/editbranch'. The sidebar on the left contains the same menu items as before: 'View Report' (highlighted in blue), 'Add Branches', 'Edit branches', 'Loan Requests', 'Close account', and 'Reset password'. The main content area is titled 'EDIT BRANCH' in bold capital letters. It displays a table with the following data:

BRANCH NUMBER	BRANCH NAME	ADDRESS	EDIT	DELETE
7	ABC chromepet	MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044	<button>EDIT</button>	<button>DELETE</button>
8	ABC Kottur	14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085	<button>EDIT</button>	<button>DELETE</button>
10	ABC Adyar	65, Car St, Narayana Krishnaraja Puram, Adyar, Chennai, Tamil Nadu 600005	<button>EDIT</button>	<button>DELETE</button>
11	ABC Main Branch Office	585, 10th east cross street, MKB Nagar, Chennai - 39	<button>EDIT</button>	<button>DELETE</button>
27	ABC poonamalle	Mevalurkuppam, near Queensland, Poonamallee, Chennai, Tamil Nadu 602105	<button>EDIT</button>	<button>DELETE</button>
28	ABC Mumbai	Antilia, Ambani Tower, Altamount Road, Cumballa Hill, Mumbai - 400026.	<button>EDIT</button>	<button>DELETE</button>



The branch table is updated where id is selected and the data like name and address is changed.



DELETING BRANCHES

The deletion of branch involves transferring the accounts from the deleted account to the main branch office which is ABC MAIN BRANCH OFFICE. The deletion is done by updating the accounts table, setting branch ID = 11 where the deleted branch ID is selected. Here the branch with branch id – 11 is the main branch office.

BEFORE

The screenshot shows a sidebar menu on the left with options: View Report, Add Branches, Edit branches, Loan Requests, Close account, and Reset password. The main area is titled 'REPORT' and contains a table with the following data:

BRANCH ID	BRANCH NAME	NUMBER OF ACCOUNTS	AMOUNT DEPOSITED	LOANS AVAILED
7	ABC chromepet	2	0	5000
8	ABC Kottur	6	20000	
10	ABC Adyar	5	51000	100000
11	ABC Main Branch Office	11	104945	
27	ABC poonamalle	3	3000	
28	ABC bombay			

AFTER

The screenshot shows the same sidebar menu as before. The main area is titled 'EDIT BRANCH' and contains a table with the following data:

BRANCH NUMBER	BRANCH NAME	ADDRESS	EDIT	DELETE
7	ABC chromepet	MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044	<button>EDIT</button>	<button>DELETE</button>
8	ABC Kottur	14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085	<button>EDIT</button>	<button>DELETE</button>
10	ABC Adyar	65, Car St, Narayana Krishnaraja Puram, Adyar, Chennai, Tamil Nadu 600005	<button>EDIT</button>	<button>DELETE</button>
11	ABC Main Branch Office	585, 10th east cross street, MKB Nagar, Chennai - 39	<button>EDIT</button>	<button>DELETE</button>
28	ABC bombay	Old bombay road, Cumballa Hill, Mumbai - 400026.	<button>EDIT</button>	<button>DELETE</button>

The screenshot shows a web-based banking application interface. At the top, the URL is `localhost:3000/dashboard/Manager/report`. The header includes the name "MITHESH" and "Manager". On the right, there is a "LOGOUT" button. The left sidebar contains navigation links: "View Report", "Add Branches", "Edit branches", "Loan Requests", "Close account", and "Reset password". The main content area is titled "REPORT" and displays a table with the following data:

BRANCH ID	BRANCH NAME	NUMBER OF ACCOUNTS	AMOUNT DEPOSITED	LOANS AVAILED
7	ABC chromepet	2	0	5000
8	ABC Kottur	6	20000	
10	ABC Adyar	5	51000	100000
11	ABC Main Branch Office	14	107945	
28	ABC bombay			

The main branch can't get deleted.

The screenshot shows the same web-based banking application interface. The URL is now `localhost:3000/dashboard/Manager/editbranch`. The header and sidebar are identical to the previous screenshot. The main content area has a title "EDIT BRANCH" and a table with the following data:

BRANCH NUMBER	BRANCH NAME	ADDRESS	EDIT	DELETE
7	ABC chromepet	MIT Rd, Radha Nagar, Chromepet, Chennai, Tamil Nadu 600044	<button>EDIT</button>	<button>DELETE</button>
8	ABC Kottur	14, Gandhi Mandapam Rd, Surya Nagar, Kotturpuram, Chennai, Tamil Nadu 600085	<button>EDIT</button>	<button>DELETE</button>
10	ABC Adyar	65, Car St. Narayana Krishnaraja Puram, Adyar, Chennai, Tamil Nadu 600005	<button>EDIT</button>	<button>DELETE</button>
11	ABC Main Branch Office	585, 10th east cross street, MKB Nagar, Chennai - 39	<button>EDIT</button>	<button>DELETE</button>
28	ABC bombay	Old bombay road, Cumballa Hill, Mumbai - 400026.	<button>EDIT</button>	<button>DELETE</button>

A modal window is displayed with the message "Main branch can't be deleted!!".