# CSE303

# Database Management System

## FINAL REPORT

## LankaBangla Securities System

### Group - 9

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# CHAPTER 1

# INTRODUCTION

## Background of the organization

Lanka Bangla is a leading trading company in Bangladesh with a focus on providing an array of financial services to its diverse clientele. Established with the goal of being a cornerstone in the financial sector, Lanka Bangla has carved out a reputation for reliability, transparency, and regulatory compliance. It operates under stringent guidelines and oversight, ensuring the highest levels of customer satisfaction.

## Background of the project

As part of our continuous effort to enhance customer experience and adapt to technological advancements, we have undertaken the project of building Lanka Bangla's new website. While the previous platform served its purpose, it became necessary to develop a new, more functional, and secure website that could cater to the sophisticated needs of our modern customer base.

## Objective of the project

The primary objectives of this website redevelopment initiative are as follows:

1. To create a secure, user-friendly, and efficient platform for financial trading and account management.
2. To streamline the multi-stage account creation process, from general customer accounts to specialized BO accounts.
3. To integrate seamless verification processes carried out by our Relationship Managers and Head of Settlement.

## Scope of the project

The project encompasses several critical aspects:

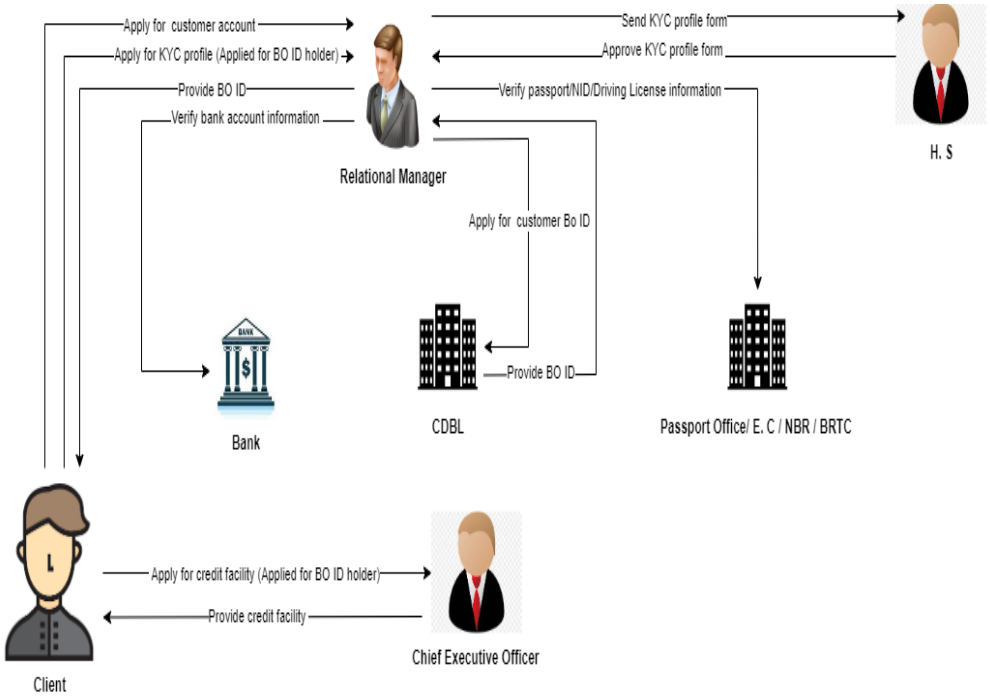
1. **Two-Stage Account Creation**: Implement a two-step procedure where customers initially fill out a basic customer account form, followed by the completion of a BO account form.
2. **BO ID Generation**: Incorporate an automated feature for allocating BO IDs via CDBL (Central Depository Bangladesh Limited).
3. **KYC and Value-Added Services**: Introduce a system that allows customers to easily submit their KYC information and opt for value-added services securely online.
4. **Power of Attorney and Multiple Nominees**: Create a dedicated section for users to add or modify Power of Attorney details and appoint multiple nominees.
5. **Role of Relationship Managers and Head of Settlement**: Integrate a backend functionality that enables Relationship Managers and the Head of Settlement to verify and approve customer information, thus finalizing the account creation process.
6. **Security and Compliance**: Employ industry-standard encryption techniques and security measures to protect customer data and ensure regulatory compliance.
7. **Customer Support**: Provide comprehensive guidelines and support channels to assist both new and existing users.

By focusing on these areas, Lanka Bangla aims to offer an unprecedented level of convenience and security to its customers, thereby solidifying its position as a leading financial institution in Bangladesh.

# CHAPTER 2

# Requirement Analysis

# RICH PICTURE ANALYSIS (AS-IS)




H. S. = Head of Settlement of Lanka Bangla Security

E. C = Election Commission

BRTC = Bangladesh Road Transport Corporation

NBR = National Board Of Revenue

CDBL = Central Depository Bangladesh Limited

R. M. = Relational Manager of Lanka Bangla Security

# SIX ELEMENT ANALYSIS(AS-IS)

| Process | Human | Non-computing Hardware | Computing Hardware | Software | Database | Network and Communication |
|---|---|---|---|---|---|---|
| Apply for user account | **Customer**<br>a) Customer fills up the account form<br>b) Apply for credit facility<br>c) Fillup KYC form<br><br>**Relational Manager** | **Pen & Paper**<br>a) Can be used for collecting information. | **Printer**<br>a) Used to print out the user account form | **Printing Software**<br>a) Any printing software used to print the form | N/A | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| | a) Review the form b) Inform customers about account creation success. | | | | | |
| Verify customer Information | **Relational Manager** a) Verify customers. information from E.C., NBR, BRTC | **Pen & Paper** a) Can be used for verifying information. | **Printer** a) Can be used to print copies. | **Printing Software** a) Any printing software used to print the form | N/A | N/A |
| Application approval | **Relational Manager** a) Approve the form and | **Hand Written Form** a) Printed copy of the | **Printer** a) Print out the final list of approved | **MS Excel** a) Used to store Approval/disapproval account info. **Printing** | **Excel files** a) Source of user's | **Internet** a) Need the internet to store and access data. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | send it to CDBL.<br><br>**Head Of Settlement**<br>a) Approve customer KYC profile.<br><br>**Chief Executive Officer**<br>a) Approve credit facility application | handwritten form will be filled up | accounts. | **Software**<br>a) Any printing software used to print the form<br><br>**Text Editor**<br>a) Any text editor for writing. Ex: Microsoft Word | information | |

# PROBLEM ANALYSIS

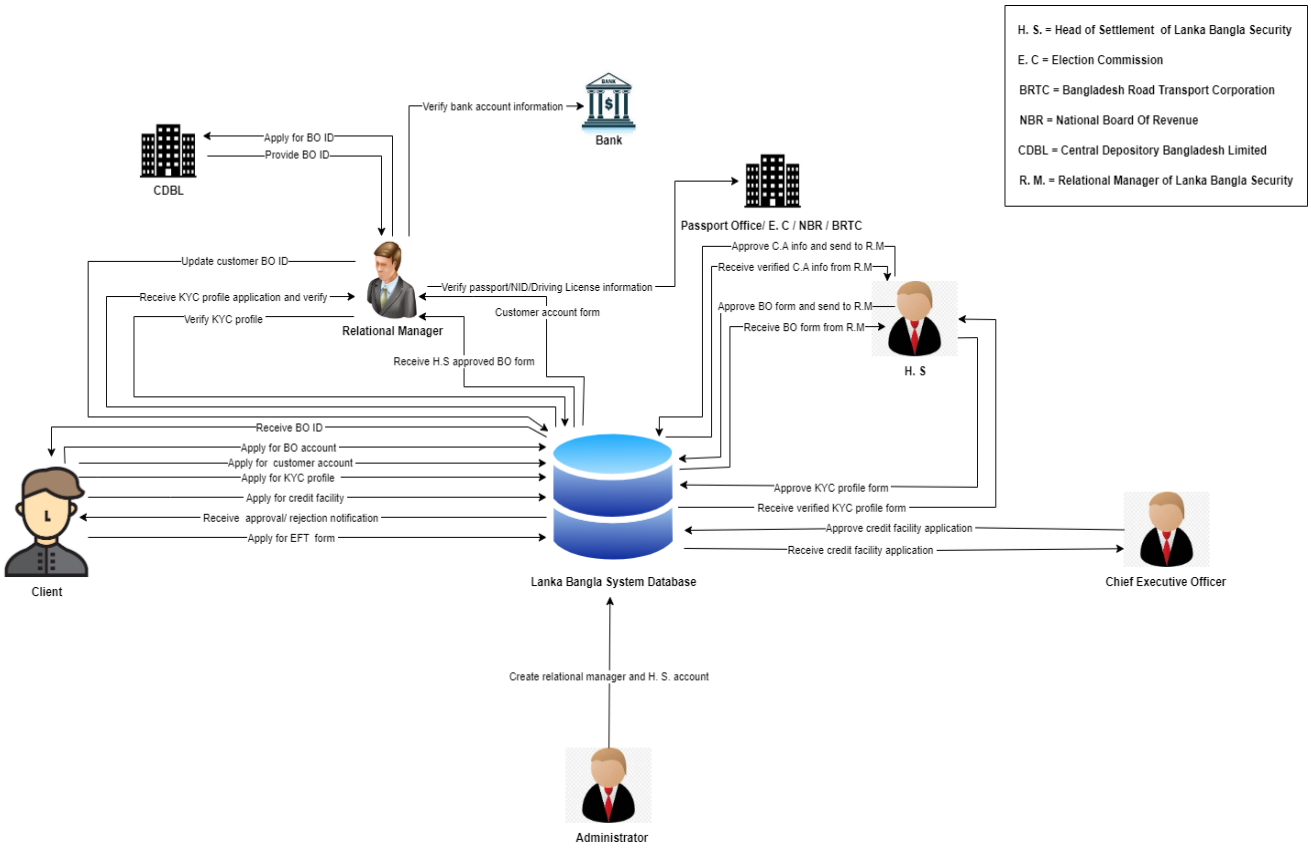
| Process Name | Stakeholders | Problems | Analysis of the Problem | Proposed Solution |
|---|---|---|---|---|
| Creates user account | 1. Client<br>2. Relationship Manager<br>3. Account Officer<br>4. CDBL<br>5. Higher Authority | 1. Time consumer<br>2. Attachment issue<br>3. Lengthy process | The account creation process is lengthy and time-consuming because of the handwritten form. The customer needs to present in person. Handwritten documents can be damaged. | The manual process should be converted into a software-automated process. The software-automated process would be less time-consuming. All the documents will be saved in the database. |

| | | | | |
|---|---|---|---|---|
| Application approval | 1. Relationship Manager<br>2. Account Officer<br>3. CDBL<br>4. Higher Authority | 1.Duplication of Effort<br><br>2.Delay/Waste Time<br>3.Accept or rejection form | Relational manager, Account Officer,Higher Authorities all reviewing and approving the same application,there is duplication of effort. Confusion or conflicting decision. Form can be rejected by the account officer, those forms approved by the Relationship Manager with information the missing customer knows before. | The manual process should be converted into a software-automated process. The software-automated process would be less time-consuming. All the documents will be saved in the database. |
| Notify Customer through Email/SMS | 1. Client<br>2. Higher Authority | 1.Delay Timing<br>2.Accept or rejection list | Sometimes clients get notifications late for manual processes. | It is required to switch the manual procedure into a software-a |

| | | | | |
|---|---|---|---|---|
| | | | If BO form is all right then Higher Authority accept this form but if there is any issue they might reject their form. | utomated version.The process that is mechanized by software would require less time. The database will hold all of the documents. |
| CDBL document verification process | 1. CDBL<br>2. Account Officer<br>3. Higher Authority | Technical Issue | If the database system has technical issues it rejects the store data. | It is required to switch the manual procedure into a software-automated version.The process that is mechanized by software would require less time. The |

| | | | | |
|---|---|---|---|---|
| | | | | database will hold all of the documents. |

# RICH PICTURE (TO-BE)




# SIX ELEMENT ANALYSIS(TO-BE)

| Process | Human | Non-computing Hardware | Computing Hardware | Software | Database | Network and Communication |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| Registration Into System | **Customer,**<br><br>**Relational Manager,**<br><br>**Head Of Settlement,**<br>a) Every user registrar into the system. | N/A | **Networking Devices**<br><br>a) Router, switch, and other devices use for getting internet to connect with the server.<br><br>**Computer/ Laptop**<br><br>a) Users will use computer/laptop to get access into the system.<br>b) Through computer user will view the data. | **Excel**<br><br>a) Use to collect user's information.<br><br>**Browser**<br>a) Any browser can be used to Access the system. | **System Database**<br><br>a) Source of all the data stored in the database.<br><br>**Excel files**<br><br>a) Source of user's information | **Internet**<br><br>a) Need internet to access the data stored |
| Login Into System | **Customer,** | N/A | **Computer/ Smartphone**:<br>a) Used for accessing & adding/editing | **Browser**<br>**a)** Chrome, firefox etc, | **System Database** | **Internet**: Used to communicate with LankaBangla |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Relational Manager,**<br><br>**Head Of Settlement,** | | data. | **LankaBangla system** | a) Source of all the data stored in the database.<br><br>**Excel files**<br><br>a) Source of user's information | system to log In. |
| Apply for user account | **Customer**<br>a) Customer fillup customer account form<br>b) Apply for credit facility<br>c) Fillup KYC form | N/A | **Computer/ Smartphone**:<br>a) Used for accessing & adding/editing data | **Browser**<br>**a)** Chrome, firefox etc, **LankaBangla system** | N/A | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Verify customer Information | **Relational Manager** a) Verify customers. information from E.C., NBR, BRTC | N/A | **Computer/ Smartphone**: a) Used for Accessing,verifying & adding/editing data | **Browser a)** Chrome, firefox etc, **LankaBangla system** | **System Database** a) Source of all the data stored in the database. | |
| Application approval | **Relational Manager** a) Approve the form and send it to CDBL. **Head Of Settlement** a) Approve customer KYC profile. | N/A | **Computer/ Laptop/Mobile** devices use for getting approval messages by sms/email. | **Browser a)** Chrome, firefox etc, **LankaBangla system** | **System Database** a) Source of all the data stored in the database. | **Internet** a) Need internet to get an email. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Notify Customer through Notification | **Relational manager** | N/A | **Computer/ Laptop/Mobile notification** | **Browser a) Goggole Crome, mozila fire box ect.** | N/A | **Internet**<br><br>a) Need internet to notification |

# CHAPTER 3

# LOGICAL SYSTEM DESIGN

# BUSINESS RULE

A client has a client code, title, name, email, phone no, present address, permanent address, gender, date of birth(dob), occupation, bank code, branch code, routing no, bank account no, photo, client signature, branch, eTin, opening date, father name, mother name, spouse name. Bank info holds bank code, branch code, routing no, bank account no, and client name holds title and name. A client can be a single account holder or joint account holder or company account holder at the same time. The client is uniquely identified from the client code.

A joint client account has a client code, joint title, name, email, phone no, present address, permanent address, gender, date of birth(dob), occupation, photo, client signature, branch, eTin, opening date, father name, mother name, spouse name. The joint client is uniquely identified from the client code.

A company account has a client code, joint title, name, email, phone no, present address, permanent address, gender, date of birth(dob), occupation, photo, client signature, branch, eTin, opening date, father name, mother name, spouse name. The company account is uniquely identified from the client code.

A client may apply for a BO account. BO account has an application id, introducer id, contact details, and passport. Contact details hold city, postcode, state, country, issue date, and expiration date. Passport holds passport no, issue place, issue date, expiry date. A BO account must have one client account. The BO account is uniquely identified from the application id.

Nominee have nom application id, title, name, address, phone, mobile, city, state, postcode, country code, country code, gender, dob, photo, signature, nationality, relationship, passport no, issue date, issue place, expiry date, NID, email, percentage. Nominee name holds the title and name. Passport info holds passport no, issue date, issue place, expiry date. The Nominee is uniquely identified from the nom application id. A nominee must have one or more BO accounts. A BO account may have one more nominee.

Power of attorney has id, title, name, address, city, postcode, state, country, telephone, mobile, fax, email, passport no, issue date, issue place, expiry date, nationality, dob, photo signature. Power of attorney name hold title and name. Contact holds address, city, postcode, state, country, telephone, mobile, fax, email. Passport holds passport no, issue date, issue place, expiry date. Power of attorney uniquely identify from id. Power of attorney depends on BO account. A power of attorney must have one BO account. A BO account may have a power of attorney.

EFT has id and multiple product type. EFT uniquely identifies from id. A BO account may apply an EFT and an EFT must have a BO account.

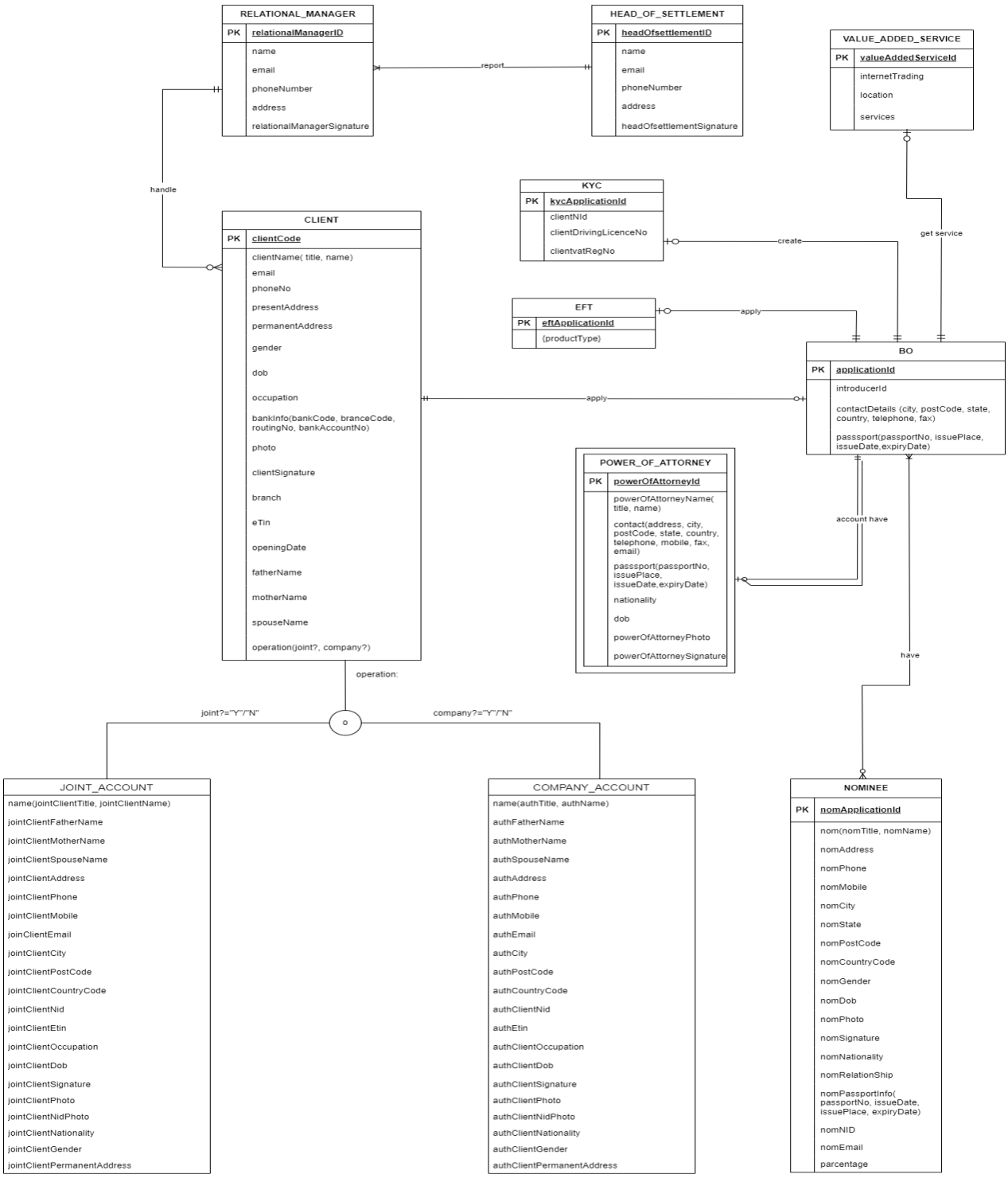
KYC has id, client NID, client driving license no, client reg no. KYC is uniquely identified from id. A KYC form must create a BO account holder. A BO account may create a KYC from.

Value added service has id, internet trading, location and services. A BO account holder may get a service and to get value added service must have a BO account holder.

Relational manger has an id, name, email, phone, number, address, signature. Relational manager uniquely identifies from id. A relational manager may handle many client accounts and a client must handled by a relational manager.

Head of settlement has an id, name, email, phone number address signature. Head of settlement uniquely identifies from id. A head of settlement must report one or many relational managers. A relational manager must report a head of settlement.

# ENTITY RELATIONSHIP DIAGRAM



# ENTITY RELATIONSHIP DIAGRAM TO RELATIONAL SCHEMA

# NORMALIZATION

# DATA DICTIONARY

**CLIENT_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| clientCode | INTEGER | 16 | Primary key of the client<br>Example:1234567 |
| title | VARCHAR | 3 | Title of the client name.<br>Example: mr./ms. |
| name | VARCHAR | 50 | Name of the client<br>Example: Mahidi Hasan, Emon Mahmud |
| email | VARCHAR | 30 | Email of the client<br>Example: mahidi001@gamil.com |
| phoneNo | INTEGER | 11 | Phone number of the client<br>Example: 01711234567 |
| presentAddress | TEXT | 70 | Present address of the client.<br>Example: Bashundara, Dhaka |
| permanentAddress | TEXT | 70 | Permanent address of the client.<br>Example: Tangail,Dhaka |
| gender | VARCHAR | 15 | Gender of the client.<br>Example: male/female |
| dob | DATE | | Date of birth of client.<br>Example: 1999-01-01 |
| occupation | VARCHAR | 20 | Occupation of the client.<br>Example: Student, job holder, businessmen |

| | | | |
|---|---|---|---|
| bankCode | INTEGER | 8 | Bank code of the client.<br>Example: 15171819 |
| branchCode | INTEGER | 5 | Branch code of the bank.<br>Example: 12345 |
| routingNo | INTEGER | 8 | Client routing no of the bank.<br>Example: 12345678 |
| bankAccountNo | INTEGER | 15 | Bank account no of the client.<br>Example: 123456789012345 |
| photo | BLOB | | Photo of the client.<br>Example: Photo.jpg, photo.pnj |
| clientSignature | BLOB | | Signature of the client.<br>Example: sig.jpg, sig.pnj |
| branch | VARCHAR | 15 | Client Branch name.<br>Example: Agargao, Bashundhara |
| eTin | VARCHAR | 15 | Client Tin number.<br>Example: 2001264772 |
| openingDate | DATE | | Account opening date<br>Example:12/12/2012 |
| fatherName | VARCHAR | 30 | Father name of the client.<br>Example: MD. Aziz |
| motherName | VARCHAR | 30 | Mother name of the client.<br>Example: Ms. Aysha |
| spouseName | VARCHAR | 30 | Wife/husband name of the client.<br>Example: Ms. Rokeya, Md. Emon |

| | | | |
|---|---|---|---|
| relationalManagerID | INTEGER | 7 | Forging of the client table. This is the primary key of the relational manager table.<br>Example: 1234567 |

**JOINT_ACCOUNT_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| jointClientCode | INTEGER | 16 | Primary key of the joint account table. |
| jointClientTitle | VARCHAR | 3 | Title of the joint client name.<br>Example: Mr./Ms. |
| jointClientName | VARCHAR | 30 | Name of the joint client.<br>Example: Mahidi Hasan, Emon Mahmud |
| jointClientFatherName | VARCHAR | 30 | Father name of the joint client.<br>Example: MD. Aziz |
| jointClientMotherName | VARCHAR | 30 | Mother name of the joint client.<br>Example: Ms. Aysha |
| jointClientSpouseName | VARCHAR | 30 | Wife/husband name of the joint client.<br>Example: Ms. Rokeya, Md. Emon |
| jointClientAddress | TEXT | 70 | Address of the joint client.<br>Example: Bashundara, Dhaka |
| jointClientPhone | INTEGER | 15 | Phone number of the joint client<br>Example: 91711234567789 |
| jointClientMobile | INTEGER | 11 | Phone number of the joint client.<br>Example: 01711234567 |
| jointClientEmail | VARCHAR | 30 | Email of the joint client. |

| | | | |
|---|---|---|---|
| | | | Example: mahidi001@gamil.com |
| jointClientCity | VARCHAR | 10 | City of the joint client.<br>Example: Gazipur |
| jointClientPostCode | INTEGER | 4 | Post code of the joint client.<br>Example: 3457 |
| jointClientCountryCode | INTEGER | 3 | Country code of the joint client.<br>Example: 088 |
| joinClientNid | VARCHAR | 15 | NID of the joint client.<br>Example: 14578920975345 |
| jointClientEtin | VARCHAR | 15 | Tin number of joint client<br>Example:22334455 |
| jointClientOccupation | VARCHAR | 15 | Occupation of the joint client.<br>Example: Student, job holder, businessmen |
| jointClientDob | DATE | | Date of birth of joint client.<br>Example: 1999-01-01 |
| jointClientSignature | BLOB | | Signature of the joint client.<br>Example: sig.jpg, sig.pnj |
| jointClientPhoto | BLOB | | Photo of the joint client.<br>Photo.jpg, photo.pnj |
| jointClientNidPhoto | BLOB | | Photo of the joint client.<br>Photo.jpg, photo.pnj |
| jointClientNationality | VARCHAR | 15 | Nationality of the joint client.<br>Example: Bangladeshi, Indian |
| jointClientGender | VARCHAR | 10 | Gender of the joint client. |

| | | | |
|---|---|---|---|
| | | | Example: male, female |
| jointClientPermanentAddress | TEXT | 70 | Permanent address of the joint client.<br>Example: Tangail,Dhaka |

**COMPANY_ACCOUNT_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| **companyClientCode** | INTEGER | 16 | pk |
| **authTitle** | VARCHAR | 3 | Title of the authorized name.<br>Example: Mr./Ms. |
| **authName** | VARCHAR | 30 | Name of the authorized client.<br>Example: Mahidi Hasan, Emon Mahmud |
| **authFatherName** | VARCHAR | 30 | Father name of the authorized client.<br>Example: MD. Aziz |
| **authMotherName** | VARCHAR | 30 | Mother name of the authorized client.<br>Example: Ms. Aysha |
| **authSpouseName** | VARCHAR | 30 | Wife/husband name of the authorized client.<br>Example: Ms. Rokeya, Md. Emon |

| | | | |
|---|---|---|---|
| **authAddress** | TEXT | 70 | Address of the authorized client.<br>Example: Bashundara, Dhaka |
| **authPhone** | INTEGER | 15 | Phone number of the authorized client<br>Example: 91711234567789 |
| **authMobile** | INTEGER | 11 | Phone number of the authorized client.<br>Example: 01711234567 |
| **authEmail** | VARCHAR | 30 | Phone number of the authorized client.<br>Example: mahidi001@gamil.com |
| **authCity** | VARCHAR | 20 | City of the authorized client.<br>Example: Gazipur |
| **authPostCode** | INTEGER | 4 | Post code of the authorized client.<br>Example: 3457 |
| **authCountryCode** | INTEGER | 3 | Country code of the authorized client.<br>Example: 088 |
| **authClientNid** | VARCHAR | 15 | NID of the authorized client.<br>Example: 14578920975345 |
| **authEtin** | VARCHAR | 15 | Tin number of authorized client<br>Example:22334455 |

| | | | |
|---|---|---|---|
| **authClientOccupation** | VARCHAR | 20 | Occupation of the authorized client.<br>Example: Student, job holder, businessmen |
| **authClientDob** | DATE | | Date of birth of authorized client.<br>Example: 1999-01-01 |
| **authClientSignature** | BLOB | | Signature of the authorized client.<br>Example: sig.jpg, sig.pnj |
| **authClientPhoto** | BLOB | | Photo of the authorized client.<br>Photo.jpg, photo.pnj |
| **authClientNidPhoto** | BLOB | | Photo of the authorized client.<br>Photo.jpg, photo.pnj |
| **authClientNationality** | VARCHAR | 15 | Nationality of the authorized client.<br>Example: Bangladeshi, Indian |
| **authClientGender** | VARCHAR | 10 | Gender of the authorized client.<br>Example:male\female |
| **authClientPermanentAddress** | TEXT | 70 | Permanent address of the authorized client.<br>Example: Tangail,Dhaka |

| | | | |
|---|---|---|---|
| | | | |

**BO_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| applicationId | INTEGER | 7 | Primary key of BO table.<br>Example: 1234567 |
| clientCode | INTEGER | 16 | Forging key of the BO table,<br>it's primary key of the client table.<br>Example: 1234567890123456 |
| title | VARCHAR | 3 | Title of the BO account holder.<br>Example: Mr. / Ms. |
| city | VARCHAR | 20 | City of the BO account holder.<br>Example: Dhaka |
| postCode | INTEGER | 4 | Post code of the BO account holder.<br>Example: 1234 |
| state | VARCHAR | 20 | State of the BO account holder.<br>Example: Dhaka |
| country | VARCHAR | 30 | Country of the BO account holder.<br>Example: Bangladesh, India |

| | | | |
|---|---|---|---|
| telephone | INTEGER | 15 | Telephone of the BO account holder.<br>Example: 987654321234567 |
| fax | INTEGER | 15 | Fax of the BO account holder.<br>Example: 987654321234567 |
| passportNo | INTEGER | 15 | Passport no of the BO account holder.<br>Example: 098765432123 |
| issuePlace | VARCHAR | 20 | Issue place of the passport. |
| issueDate | DATE | | Issue date of the passport.<br>Example:2022-02-09 |
| expiryDate | DATE | | Expiry date of the passport.<br>Example:2025-02-09 |
| introducerId | INTEGER | 16 | Introducer id of the BO account holder.<br>Example: 0976543323456789090 |

**NOMINEE_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| applicationId | INTEGER | 7 | PK of BO table ,FK of nominee table |
| nomApplicationId | INTEGER | 3 | pk |
| nomTitle | VARCHAR | 3 | Title of the nominee<br>Example:Mr/MS |

| | | | |
|---|---|---|---|
| nomName | VARCHAR | 30 | Nominee name<br>Example:Mahidy hasan |
| nomAddress | TEXT | 70 | Nominee address<br>Example:Bashundhara,dhaka |
| nomPhone | INTEGER | 15 | Nominee Phone no.<br>Example:55371 |
| nomMobile | INTEGER | 11 | Nominee Mobile no.<br>Example:01767996651 |
| nomCity | VARCHAR | 20 | Nominee city<br>Exapmle:Dhaka,Tangail |
| nomState | VARCHAR | 20 | Nominee State<br>Example:Dhaka |
| nomPostCode | INTEGER | 4 | Nominee postal code<br>Example:1212 |
| nomCountryCode | INTEGER | 3 | Nominee Country Code<br>Example:088 |
| nomGender | VARCHAR | 10 | Nominee gender<br>Example:Male/female |
| nomDob | DATE | | Nominee date of birth<br>Example:12.12.12 |
| nomPhoto | BLOB | | Nominee Photo<br>Example:photo.png |
| nomSignature | BLOB | | Nominee signature |

| | | | |
|---|---|---|---|
| | | | Example:sig.png |
| nomNationality | VARCHAR | 15 | Nominee nationality<br>Example:Bangladeshi/Indian |
| nomRelationShip | VARCHAR | 20 | Nonminee relationship<br>Example:Father/mother/daughter |
| passportNo | INTEGER | 15 | Nominee passport no.<br>Example:12233344444 |
| issueDate | DATE | | Issue date<br>Example:12/12/13 |
| issuePlace | VARCHAR | 20 | Issue place |
| expiryDate | DATE | | Expiry Date<br>Example:12/12/29 |
| nomNID | VARCHAR | 15 | Nominee NID<br>Example:12131456778899 |
| nomEmail | VARCHAR | 30 | Nominee Email<br>Example:mithun@gmail.com |
| parcentage | DECIMAL | (3,0) | Nominee parcentage<br>10%/20% |

**POWER_OF_ATTORNEY_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|

| | | | |
|---|---|---|---|
| applicationId | INTEGER | 7 | Foreign key of the power of attorney table, and primary key of the BO table.<br>Example: 1234567 |
| powerOfAttorneyId | INTEGER | 7 | Primary key of the power of attorney table<br>Example: 7654321 |
| title | VARCHAR | 3 | Title of the power of attorney.<br>Example: Ms. / Mr. |
| name | VARCHAR | 30 | Name of the power of attorney.<br>Example: Bisawjit Das |
| address | TEXT | 70 | Adress of the power of attorney.<br>Example: Bhuapur, Tangail |
| city | VARCHAR | 30 | City of the power of attorney.<br>Example: Tangail |
| postCode | NUMBER | 4 | Post of the power of attorney.<br>Example: 4321 |
| state | VARCHAR | 15 | State of the power of attorney.<br>Example: Dhaka |
| country | VARCHAR | 20 | Country of the power of attorney.<br>Example: Bangladesh |

| | | | |
|---|---|---|---|
| telephone | INTEGER | 15 | Telephone number of the power of attorney.<br>Example: 098765432123456 |
| mobile | INTEGER | 11 | Mobile of the power of attorney.<br>Example: 01712345678 |
| fax | INTEGER | 15 | Fax number of the power of attorney.<br>Example: 890765432123456 |
| email | VARCHAR | 30 | Email of the power of attorney.<br>Example: mithun@gamil.com |
| passportNo | INTEGER | 15 | Passport number of the power of attorney.<br>Example: 890789654321234 |
| issuePlace | VARCHAR | 15 | Issue place of passport.<br>Example: Uttara, dhaka. |
| issueDate | DATE | | Issue date of passport.<br>Example: 2022-10-10 |
| expiryDate | DATE | | Expiry date of passport.<br>Example: 2027-10-10 |
| nationality | VARCHAR | 15 | Nationality of the power of attorney.<br>Example: Bangladeshi, Indian. |

| | | | |
|---|---|---|---|
| dob | DATE | | Date of birth of the power of attorney.<br>Example: 1999-07-09 |
| powerOfAttorneyPhoto | BLOB | | Photo of the power of attorney.<br>Example: ph.jpg |
| powerOfAttorneySignature | BLOB | | Signature of the power of attorney.<br>Example: jo.png |

**RELATIONAL_MANAGER_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| relationalManagerID | INTEGER | 7 | pk |
| name | VARCHAR | 30 | Name of relationl manager<br>Example:Mithun,emon |
| email | VARCHAR | 30 | Relational manager email<br>Example:towhid@gmail.com |
| phoneNumber | INTEGER | 11 | Phone number<br>Example:01765432127 |
| address | VARCHAR | 70 | Relational manager address<br>Example:banani,dhaka |

| | | | |
|---|---|---|---|
| relationalManagerSignature | BLOB | | Signature<br>Example:sig.png |
| headOfsettlementID | INTEGER | 7 | fk |

**HEAD_OF_SETTLEMENT_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| headOfsettlementID | INTEGER | 7 | pk |
| name | VARCHAR | 30 | Head of settlement<br>Example:Towhidur Rahman |
| email | VARCHAR | 30 | Email<br>Example:shaon@gmail.com |
| phoneNumber | INTEGER | 11 | Phone number<br>Example:01234567896 |
| address | VARCHAR | 70 | Address<br>Example:Badda,dhaka |
| headOfsettlementSignature | BLOB | | Signature<br>Example:sig.png |

**KYC_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| kycApplicationId | INTEGER | 7 | pk |
| applicationId | INTEGER | 7 | fk |
| clientNId | VARCHAR | 15 | Client NID no.<br>Example:88997654678 |
| clientDrivingLicenceNo | INTEGER | 10 | Driving license No.<br>Example:88679900533 |
| clientvatRegNo | INTEGER | 10 | Vat registration no.<br>Example;773300987 |

**EFT_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| eftApplicationId | INTEGER | 7 | pk |
| applicationId | INTEGER | 16 | fk |

**PRODUCT_EFT_T**

| Name | Data Type | Size | Remark |
|---|---|---|---|
| productType | VARCHAR | 255 | PK |
| eftApplicationId | INTEGER | 7 | PK+FK |

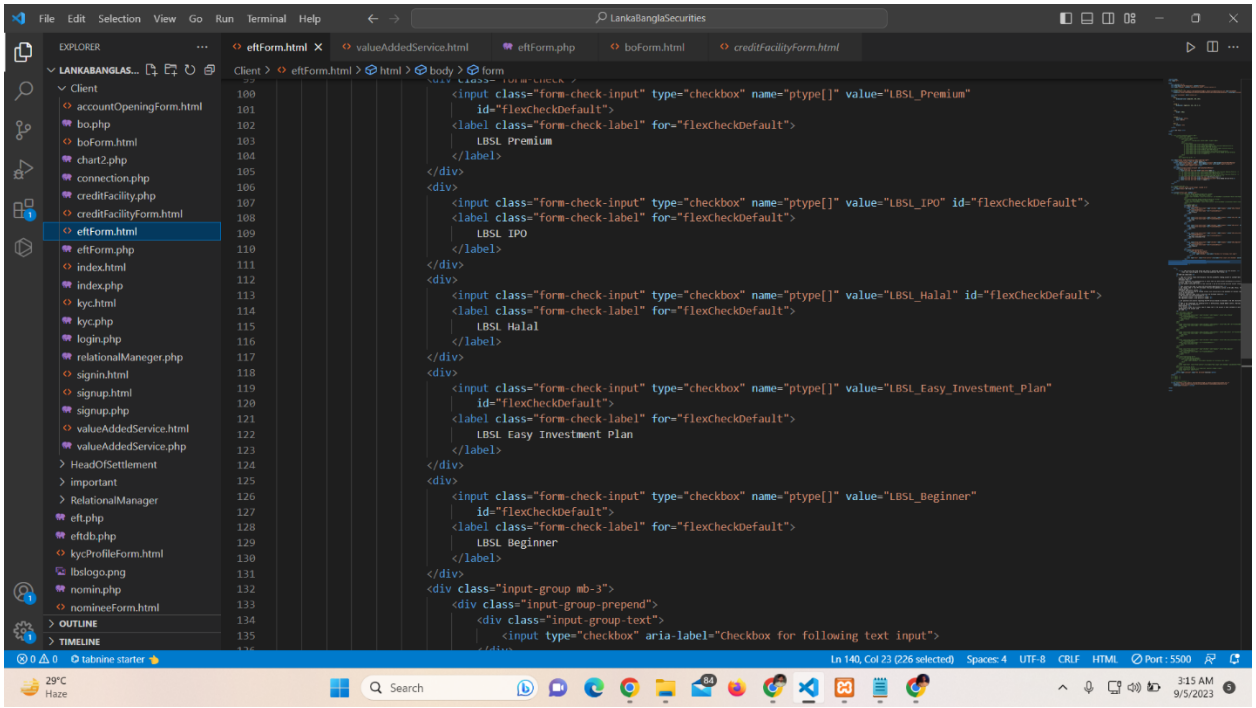
**VALUE_ADDED_SERVICE_T**

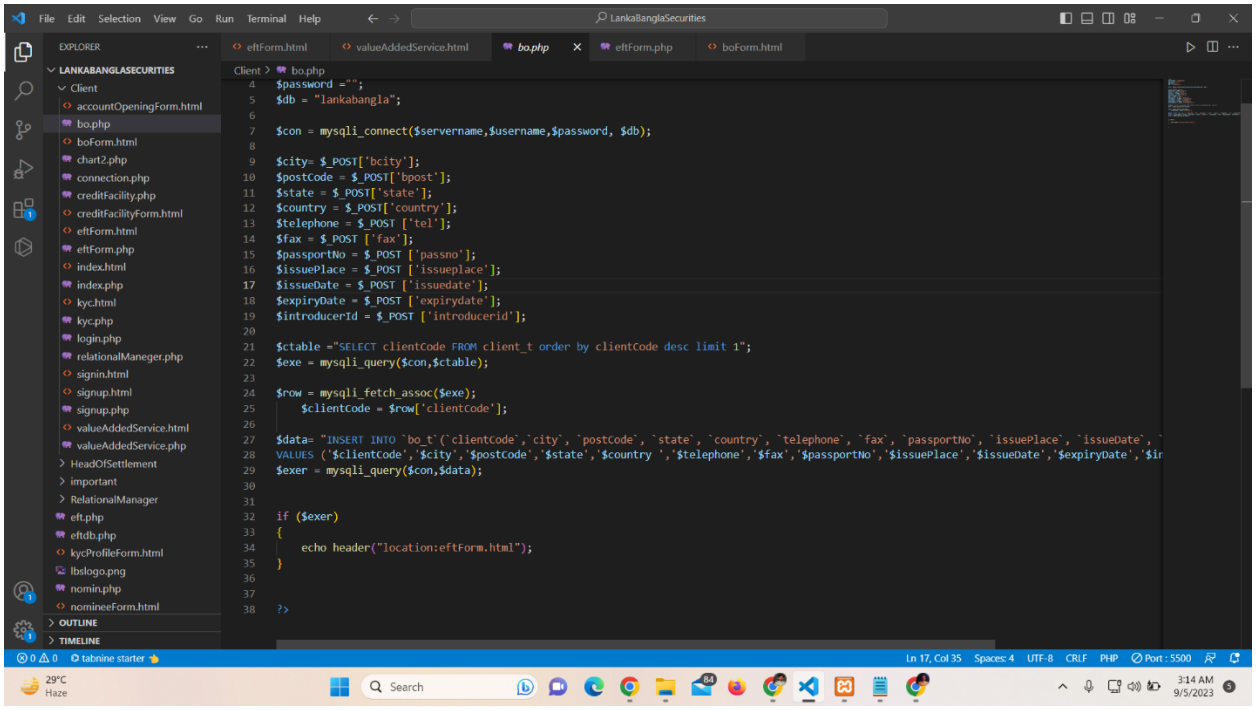
| Name | Data Type | Size | Remark |
|---|---|---|---|
| valueAddedServiceId | INTEGER | 7 | pk |
| internetTrading | VARCHAR | 50 | Bond, gold bond |
| location | VARCHAR | 30 | Example: DSE,CSE |
| applicationId | INTEGER | 16 | fk |
| services | VARCHAR | 30 | SMS, Email |

# CHAPTER 4

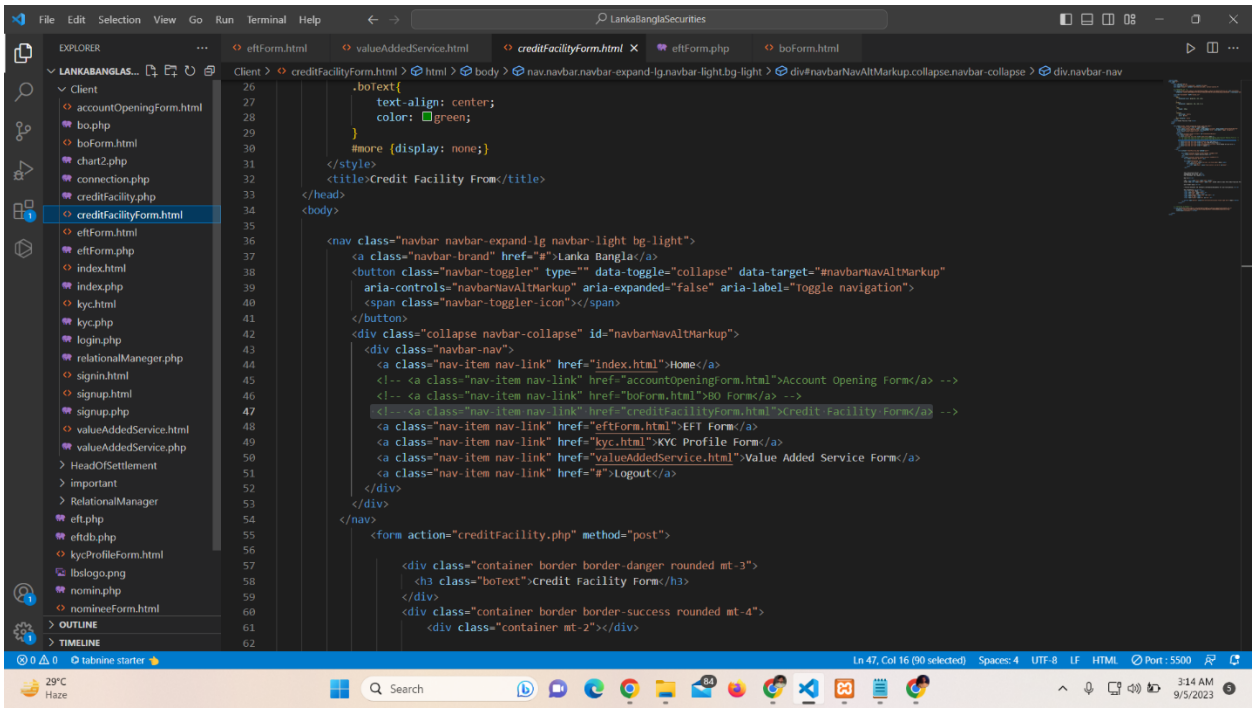
# PHYSICAL SYSTEM DESIGN

## INPUT

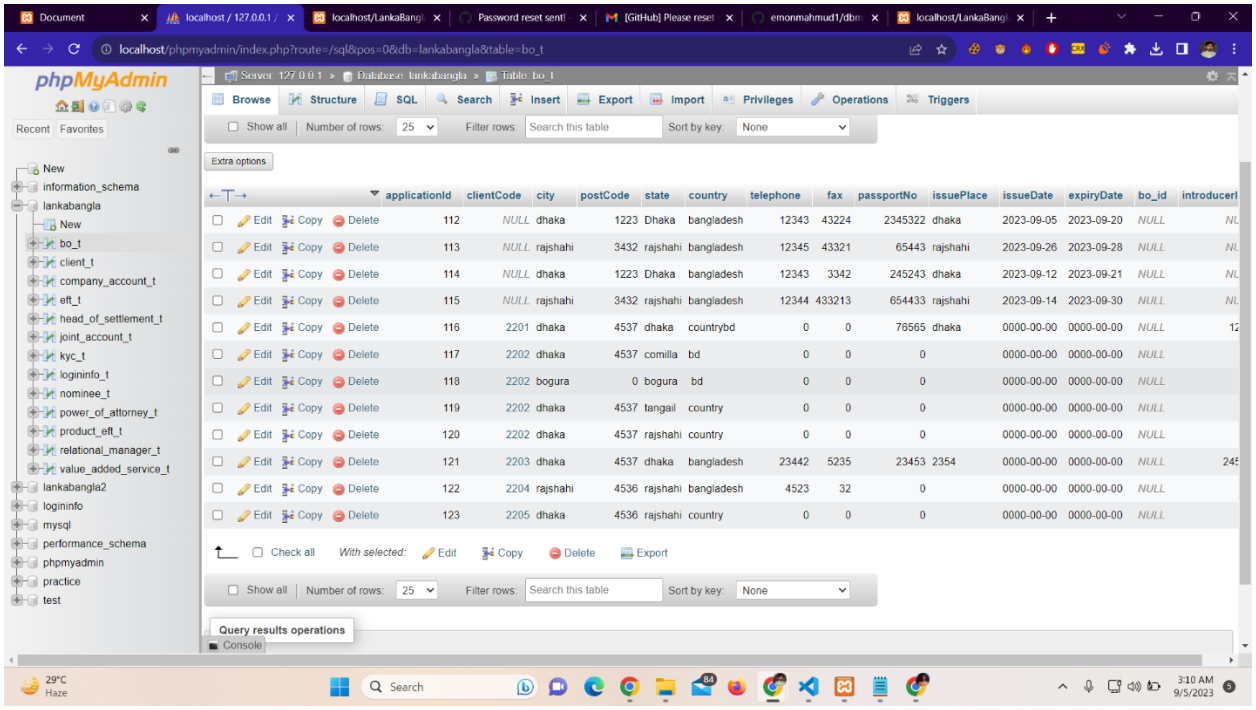


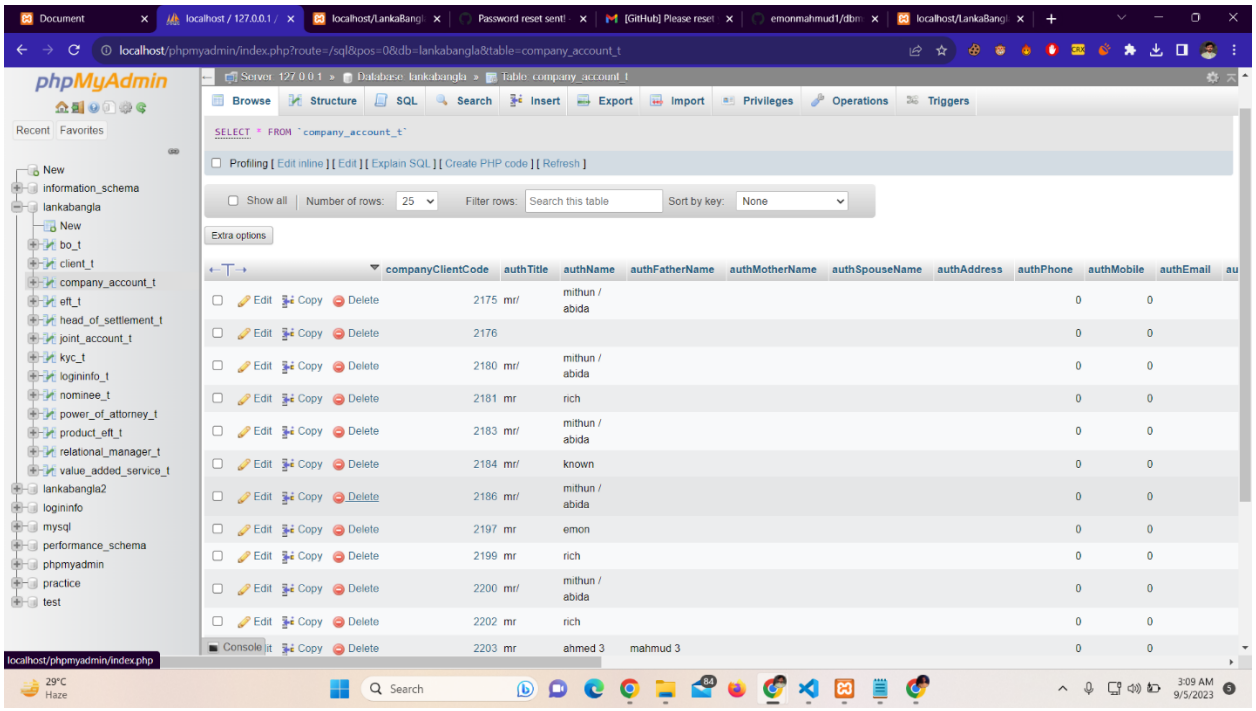


```php
$password ="";
$db = "lankabangla";

$con = mysqli_connect($servername,$username,$password, $db);

$city= $_POST['bcity'];
$postCode = $_POST['bpost'];
$state = $_POST['state'];
$country = $_POST['country'];
$telephone = $_POST ['tel'];
$fax = $_POST ['fax'];
$passportNo = $_POST ['passno'];
$issuePlace = $_POST ['issueplace'];
$issueDate = $_POST ['issuedate'];
$expiryDate = $_POST ['expirydate'];
$introducerId = $_POST ['introducerid'];

$ctable ="SELECT clientCode FROM client_t order by clientCode desc limit 1";
$exe = mysqli_query($con,$ctable);

$row = mysqli_fetch_assoc($exe);
    $clientCode = $row['clientCode'];

$data= "INSERT INTO `bo_t`(`clientCode`,`city`, `postCode`, `state`, `country`, `telephone`, `fax`, `passportNo`, `issuePlace`, `issueDate`,
VALUES ('$clientCode','$city','$postCode','$state','$country ','$telephone','$fax','$passportNo','$issuePlace','$issueDate','$expiryDate','$ir
$exer = mysqli_query($con,$data);


if ($exer)
{
    echo header("location:eftForm.html");
}


?>
```

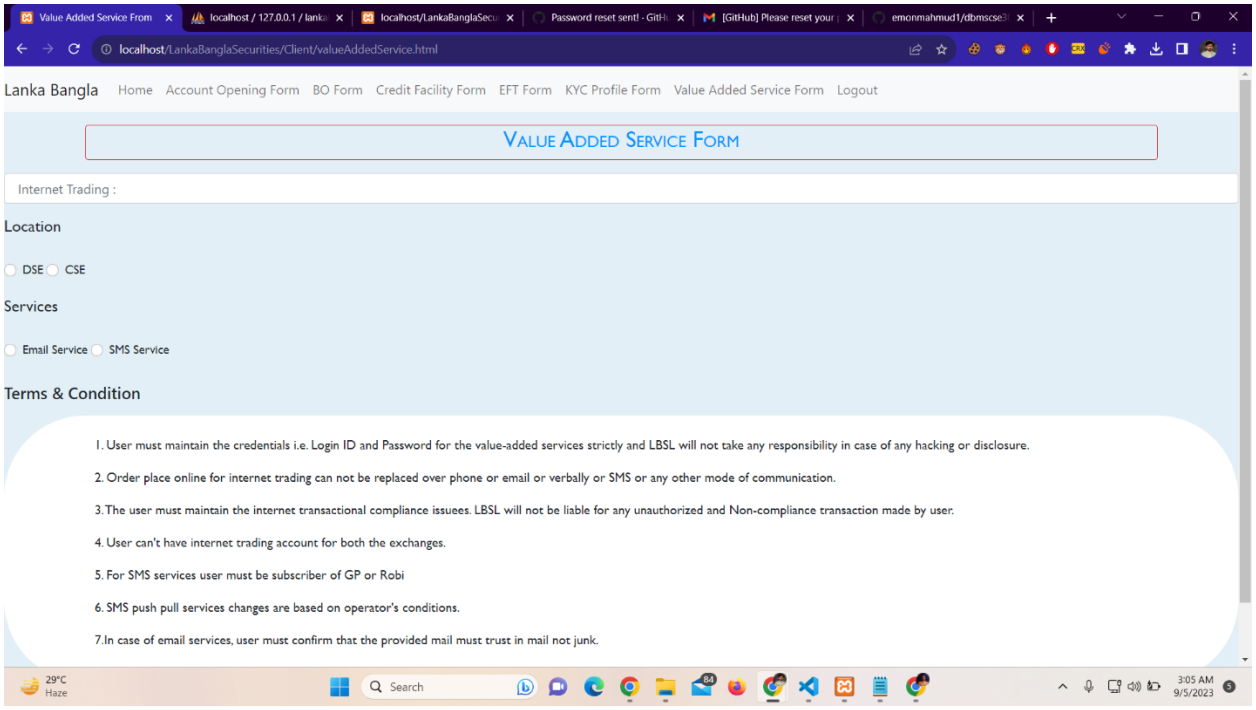


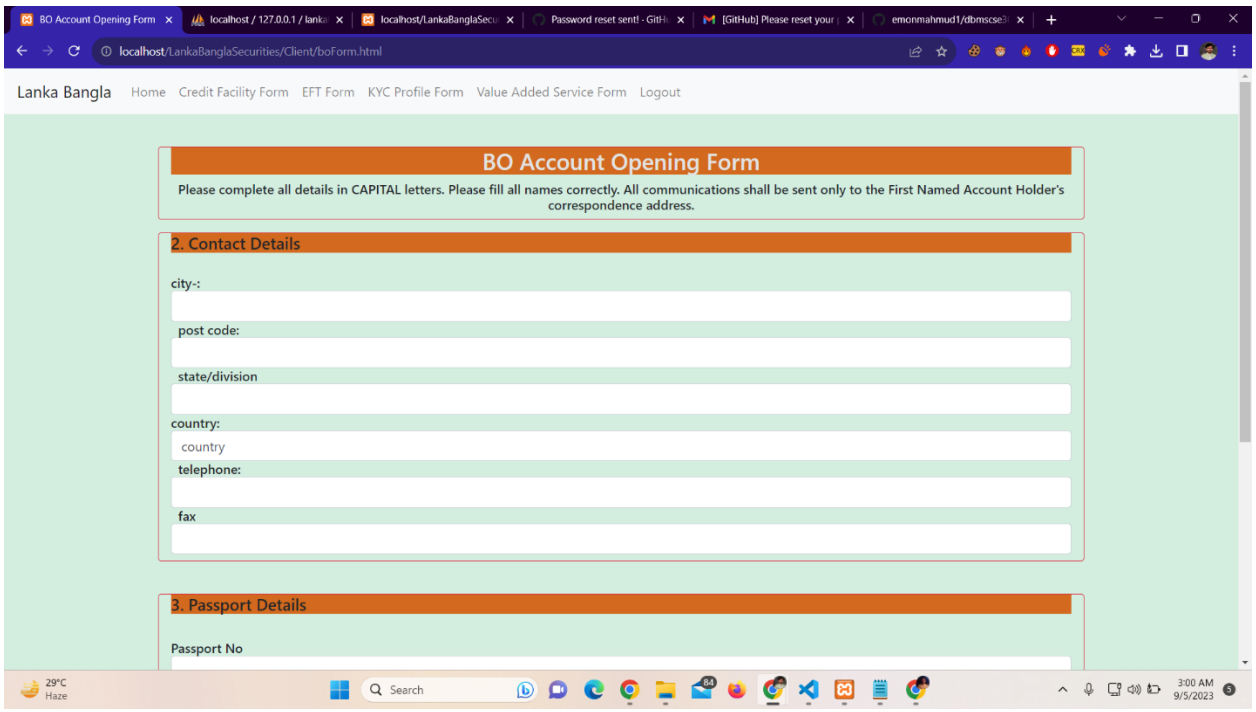
```php
            .boText{
                text-align: center;
                color: green;
            }
            #more {display: none;}
        </style>
        <title>Credit Facility From</title>
    </head>
    <body>

        <nav class="navbar navbar-expand-lg navbar-light bg-light">
            <a class="navbar-brand" href="#">Lanka Bangla</a>
            <button class="navbar-toggler" type="" data-toggle="collapse" data-target="#navbarNavAltMarkup"
              aria-controls="navbarNavAltMarkup" aria-expanded="false" aria-label="Toggle navigation">
              <span class="navbar-toggler-icon"></span>
            </button>
            <div class="collapse navbar-collapse" id="navbarNavAltMarkup">
              <div class="navbar-nav">
                <a class="nav-item nav-link" href="index.html">Home</a>
                <!-- <a class="nav-item nav-link" href="accountOpeningForm.html">Account Opening Form</a> -->
                <!-- <a class="nav-item nav-link" href="boForm.html">BO Form</a> -->
                <!-- <a class="nav-item nav-link" href="creditFacilityForm.html">Credit Facility Form</a> -->
                <a class="nav-item nav-link" href="eftForm.html">EFT Form</a>
                <a class="nav-item nav-link" href="kyc.html">KYC Profile Form</a>
                <a class="nav-item nav-link" href="valueAddedService.html">Value Added Service Form</a>
                <a class="nav-item nav-link" href="#">Logout</a>
              </div>
            </div>
          </nav>
            <form action="creditFacility.php" method="post">

                <div class="container border border-danger rounded mt-3">
                  <h3 class="boText">Credit Facility Form</h3>
                </div>
                <div class="container border border-success rounded mt-4">
                    <div class="container mt-2"></div>
```

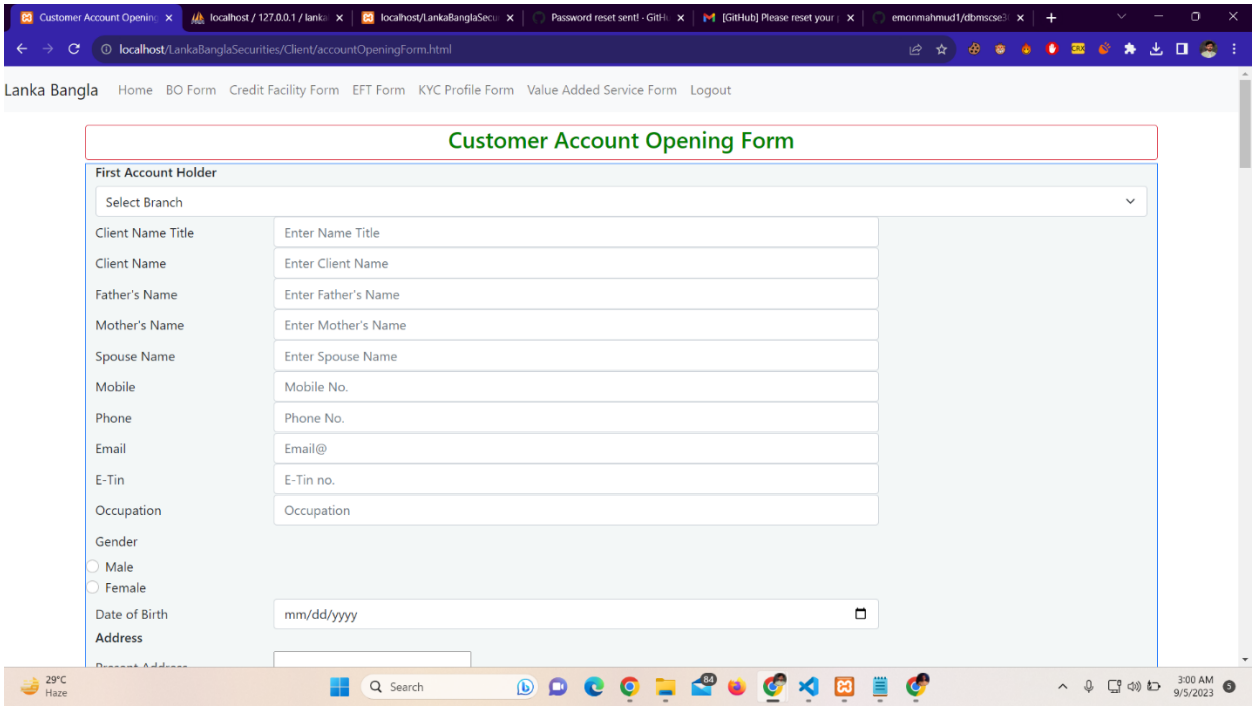

phpMyAdmin
localhost/phpmyadmin/index.php?route=/sql&pos=0&db=lankabangla&table=bo_t
Server 127.0.0.1 » Database: lankabangla » Table: bo_t
Browse Structure SQL Search Insert Export Import Privileges Operations Triggers
Show all Number of rows: 25 Filter rows: Search this table Sort by key: None
Extra options
applicationId clientCode city postCode state country telephone fax passportNo issuePlace issueDate expiryDate bo_id introducerI
112 NULL dhaka 1223 Dhaka bangladesh 12343 43224 2345322 dhaka 2023-09-05 2023-09-20 NULL
113 NULL rajshahi 3432 rajshahi bangladesh 12345 43321 65443 rajshahi 2023-09-26 2023-09-28 NULL
114 NULL dhaka 1223 Dhaka bangladesh 12343 3342 245243 dhaka 2023-09-12 2023-09-21 NULL
115 NULL rajshahi 3432 rajshahi bangladesh 12344 433213 654433 rajshahi 2023-09-14 2023-09-30 NULL
116 2201 dhaka 4537 dhaka countrybd 0 0 76565 dhaka 0000-00-00 0000-00-00 NULL
117 2202 dhaka 4537 comilla bd 0 0 0 0000-00-00 0000-00-00 NULL
118 2202 bogura 0 bogura bd 0 0 0 0000-00-00 0000-00-00 NULL
119 2202 dhaka 4537 tangail country 0 0 0 0000-00-00 0000-00-00 NULL
120 2202 dhaka 4537 rajshahi country 0 0 0 0000-00-00 0000-00-00 NULL
121 2203 dhaka 4537 dhaka bangladesh 23442 5235 23453 2354 0000-00-00 0000-00-00 NULL
122 2204 rajshahi 4536 rajshahi bangladesh 4523 32 0 0000-00-00 0000-00-00 NULL
123 2205 dhaka 4536 rajshahi country 0 0 0 0000-00-00 0000-00-00 NULL
Check all With selected: Edit Copy Delete Export
Query results operations
Console

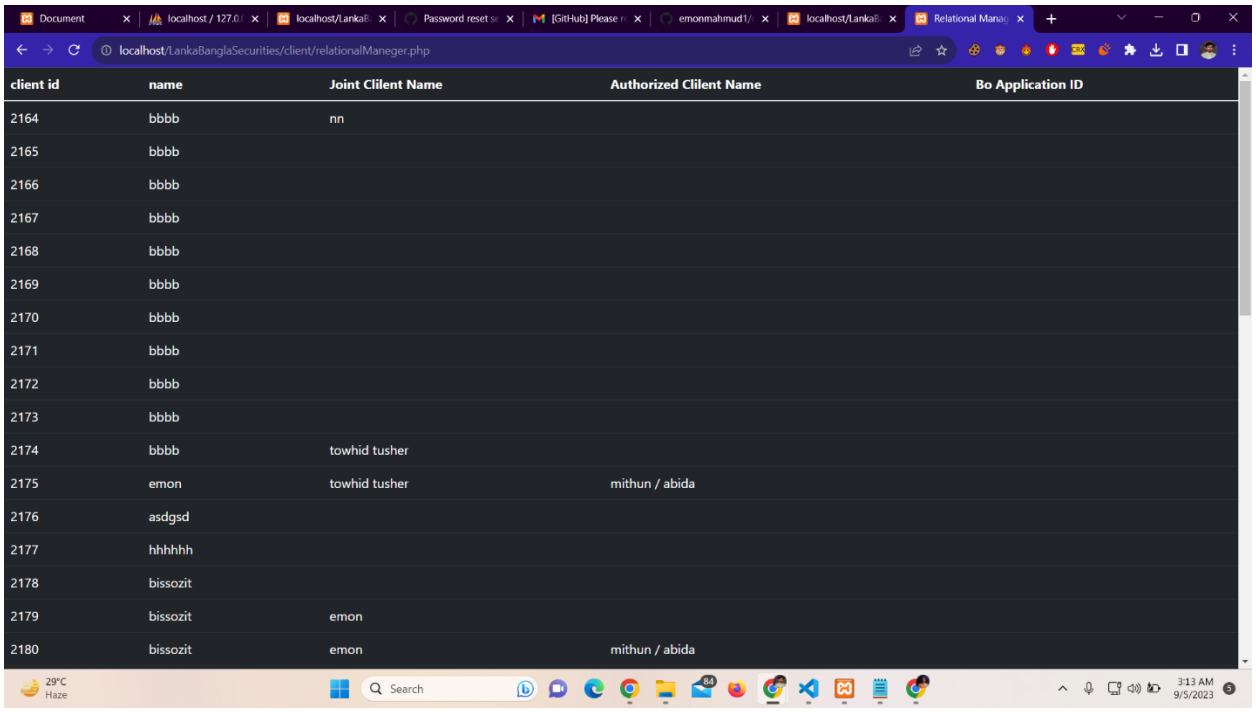

phpMyAdmin
localhost/phpmyadmin/index.php?route=/sql&pos=0&db=lankabangla&table=company_account_t
Server 127.0.0.1 » Database: lankabangla » Table: company_account_t
Browse Structure SQL Search Insert Export Import Privileges Operations Triggers
SELECT * FROM `company_account_t`
Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
Show all Number of rows: 25 Filter rows: Search this table Sort by key: None
Extra options
companyClientCode authTitle authName authFatherName authMotherName authSpouseName authAddress authPhone authMobile authEmail
2175 mr/ mithun / abida 0 0
2176 0 0
2180 mr/ mithun / abida 0 0
2181 mr rich 0 0
2183 mr/ mithun / abida 0 0
2184 mr/ known 0 0
2186 mr/ mithun / abida 0 0
2197 mr emon 0 0
2199 mr rich 0 0
2200 mr/ mithun / abida 0 0
2202 mr rich 0 0
2203 mr ahmed 3 mahmud 3 0 0
Console

# OUTPUT

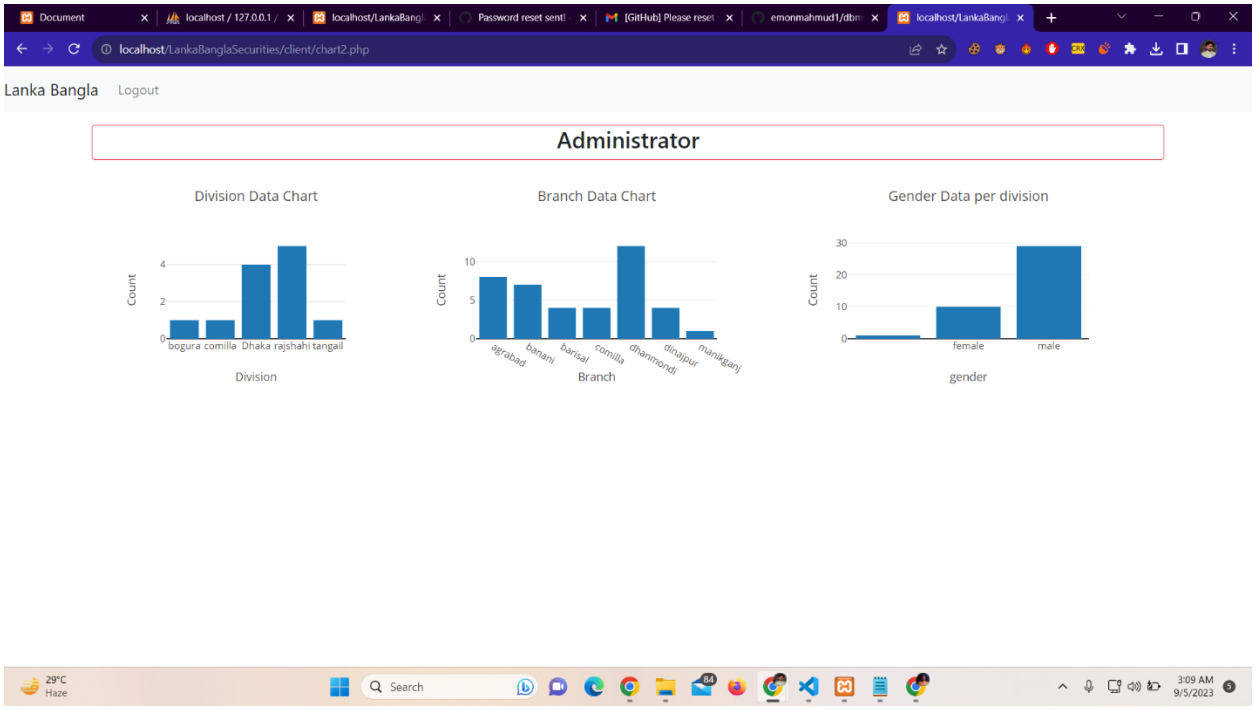

Value Added Service From
localhost/LankaBanglaSecurities/Client/valueAddedService.html
Lanka Bangla
Home
Account Opening Form
BO Form
Credit Facility Form
EFT Form
KYC Profile Form
Value Added Service Form
Logout
VALUE ADDED SERVICE FORM
Internet Trading :
Location
DSE
CSE
Services
Email Service
SMS Service
Terms & Condition
1. User must maintain the credentials i.e. Login ID and Password for the value-added services strictly and LBSL will not take any responsibility in case of any hacking or disclosure.
2. Order place online for internet trading can not be replaced over phone or email or verbally or SMS or any other mode of communication.
3. The user must maintain the internet transactional compliance issuees. LBSL will not be liable for any unauthorized and Non-compliance transaction made by user.
4. User can't have internet trading account for both the exchanges.
5. For SMS services user must be subscriber of GP or Robi
6. SMS push pull services changes are based on operator's conditions.
7. In case of email services, user must confirm that the provided mail must trust in mail not junk.


BO Account Opening Form
localhost/LankaBanglaSecurities/Client/boForm.html
Lanka Bangla
Home
Credit Facility Form
EFT Form
KYC Profile Form
Value Added Service Form
Logout
BO Account Opening Form
Please complete all details in CAPITAL letters. Please fill all names correctly. All communications shall be sent only to the First Named Account Holder's correspondence address.
2. Contact Details
city-:
post code:
state/division
country:
country
telephone:
fax
3. Passport Details
Passport No




| client id | name | Joint Clilent Name | Authorized Clilent Name | Bo Application ID |
|---|---|---|---|---|
| 2164 | bbbb | nn | | |
| 2165 | bbbb | | | |
| 2166 | bbbb | | | |
| 2167 | bbbb | | | |
| 2168 | bbbb | | | |
| 2169 | bbbb | | | |
| 2170 | bbbb | | | |
| 2171 | bbbb | | | |
| 2172 | bbbb | | | |
| 2173 | bbbb | | | |
| 2174 | bbbb | towhid tusher | | |
| 2175 | emon | towhid tusher | mithun / abida | |
| 2176 | asdgsd | | | |
| 2177 | hhhhhh | | | |
| 2178 | bissozit | | | |
| 2179 | bissozit | emon | | |
| 2180 | bissozit | emon | mithun / abida | |




# Chapter 5

# Conclusion and Recommendation

# CONCLUSION

The redevelopment of Lanka Bangla's new website has been an important step toward modernizing and simplifying the account creation and management process for our clients. By streamlining multi-stage account setups, integrating features like BO ID allocation via CDBL, and roles for Relationship Managers and the Head of Settlement for account verification, we have achieved a robust, secure, and user-friendly platform. This project serves not only to meet but to exceed the evolving needs and expectations of our diverse clientele.

## Recommendation

**User Experience Monitoring**: Upon launch, closely monitor user interactions to identify areas for potential improvement and optimize the overall user experience.

**Staff Training**: Continuously train Relationship Managers and the Head of Settlement to ensure that they are fully versed in the functionalities of the new system.

**Customer Education**: Develop easy-to-follow guides, tutorials, and FAQs to help customers understand how to navigate the new website and perform key tasks such as filling out forms for account creation.

**Regular Security Audits**: Conduct frequent security audits to ensure the robustness of encryption and data protection features, thereby safeguarding customer information.

**Customer Feedback Mechanism**: Implement a straightforward process for collecting customer feedback regarding their experience using the new website. This will provide valuable insights for future updates.

**Legal Compliance**: Continuously update the website to adhere to changing laws and regulations in the financial sector, ensuring that all features and processes remain compliant.

**Real-Time Support**: Consider the addition of real-time support features like a chatbot or live customer service to guide users who may have immediate questions or face issues while using the site.

By acting on these recommendations, Lanka Bangla can ensure the continued success and reliability of its new platform, thereby solidifying its reputation as a leader in Bangladesh's financial services industry.

## References

1) Webmaster, I. U. B. (n.d.). *Independent University, Bangladesh*. iub. Retrieved December 2, 2022, from http://www.iub.edu.bd/

2) Lankabangla Financial Portal- Live stock data of Dhaka Stock Exchange (DSE), financial statements, research, chart and level 2 data

3) Inserting data into a new column of an already existing table in MySQL using Python https://www.geeksforgeeks.org/inserting-data-into-a-new-column-of-an-already-existing-table-in-mysql-using-python/