

### Class Diagram

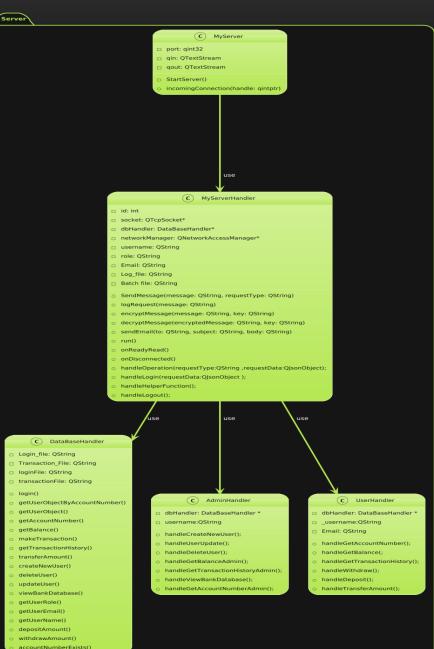
Server (C) MyServer □ port: gint32 ☐ qin: QTextStream □ qout: QTextStream StartServer() incomingConnection(handle: qintptr) (C) MyServerHandler □ socket: QTcpSocket\* □ dbHandler: DataBaseHandler\* networkManager: QNetworkAccessManager\* □ username: QString □ role: QString □ Email: QString □ Log file: QString □ Batch file: QString SendMessage(message: QString, requestType: QString) logRequest(message: QString) encryptMessage(message: QString, key: QString) decryptMessage(encryptedMessage: QString, key: QString) sendEmail(to: QString, subject: QString, body: QString) o onReadyRead() handleOperation(requestType:QString ,requestData:QJsonObject); handleLogin(requestData:QJsonObject ); handleHelperFunction(); handleLogout(); C DataBaseHandler □ Login\_file: QString □ Transaction\_File: QString □ loginFile: QString □ transactionFile: QString (C) AdminHandler C UserHandler getUserObjectByAccountNumber() getUserObject() □ dbHandler: DataBaseHandler \* □ dbHandler: DataBaseHandler \* getAccountNumber() username:QString username:QString getBalance() □ Email: QString handleCreateNewUser(); makeTransaction() handleUserUpdate(); handleGetAccountNumber(); getTransactionHistory() handleGetBalance(; handleDeleteUser(); transferAmount() handleGetTransactionHistory(); handleGetBalanceAdmin(); createNewUser() handleGetTransactionHistoryAdmin(); handleWithdraw(); deleteUser() handleViewBankDatabase(); handleDeposit(); updateUser() handleGetAccountNumberAdmin(); handleTransferAmount(); viewBankDatabase() getUserRole() getUserEmail() getUserName() depositAmount() withdrawAmount() accountNumberExists()

**Server Class Diagram** 

Client MainWindow □ ui: Ui::MainWindow\* □ client: MyClient username: QString Admin: Admin User: User onConnectionDevice() onDisconnectedDevice() o onErrorOccurredDevice(socketError: QAbstractSocket::SocketError) onStateChangedDevice(socketState: QAbstractSocket::SocketState) onReadyReadDevice() on\_pbStart\_clicked() on\_pdConnect\_clicked() on\_pdDisconnect\_clicked() on\_pdLogin\_clicked() on\_pbHelp\_clicked() on\_pbLogout\_clicked() on\_pbExit\_clicked() on\_pbAdminService\_clicked() on\_pbUserService\_clicked() use (C) Admin (c) User client: MyClient client: MyClient getAccountNumberAdmin() getAccountNumber() getBalanceAdmin() use getBalance() getTransactionHistoryAdmin() getTransactionHistory() viewBankDatabase() withdraw() deleteUser() deposit() addUser() transfer() updateUser() use use (C) MyClient socket: QTcpSocket □ port: qint32 ip: QString Role: QString Email: QString ConnectToDevice(ip: QString, port: qint32) Disconnect() sendRequest(DataToSend: QString) encryptMessage(message: QString, key: QString) decryptMessage(encryptedMessage: QString, key: QString) onErrorOccurred(QAbstractSocket::SocketError socketError) onStateChanged(QAbstractSocket::SocketState socketState) onReadyRead()

### **Client Class Diagram**

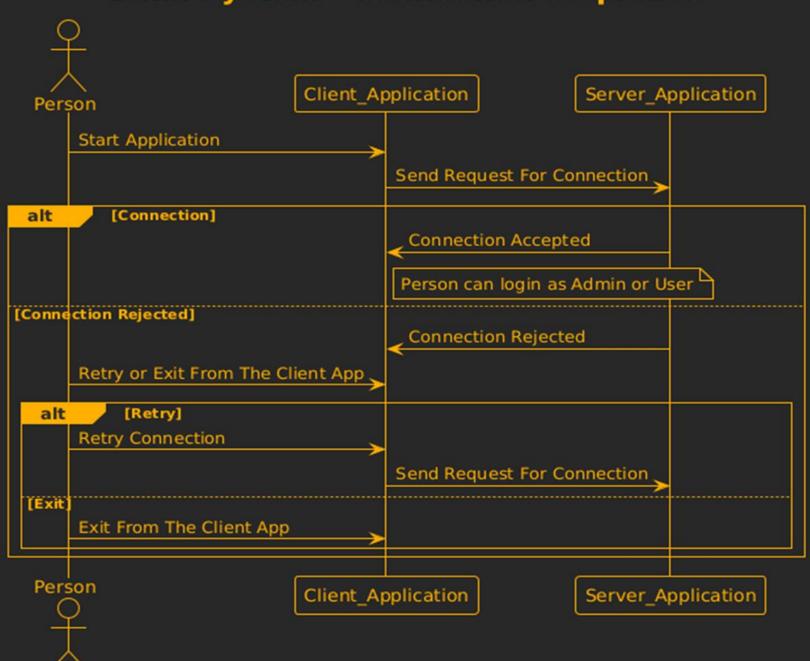




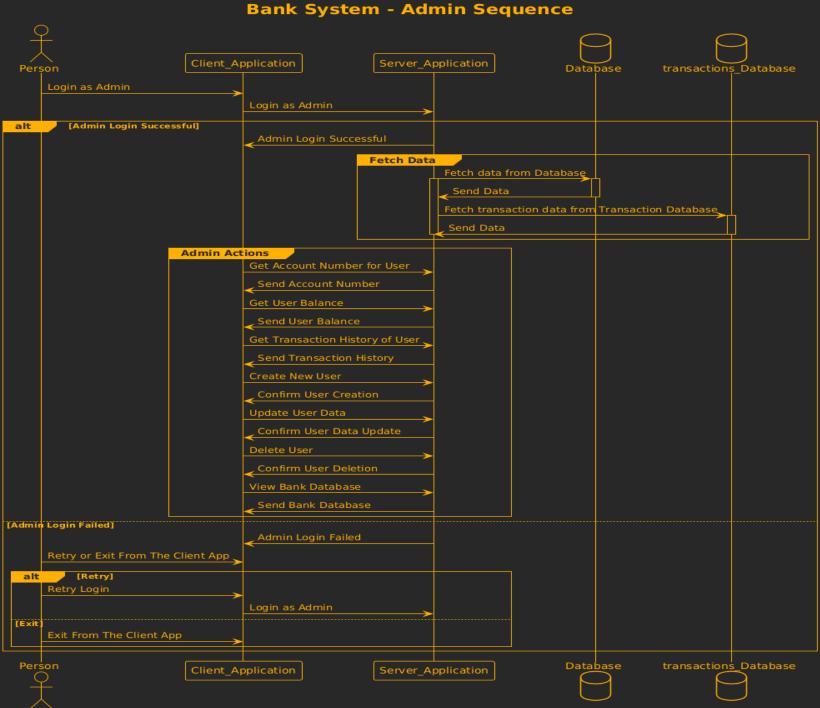


### Sequence Diagram

#### **Bank System - Connection Sequence**

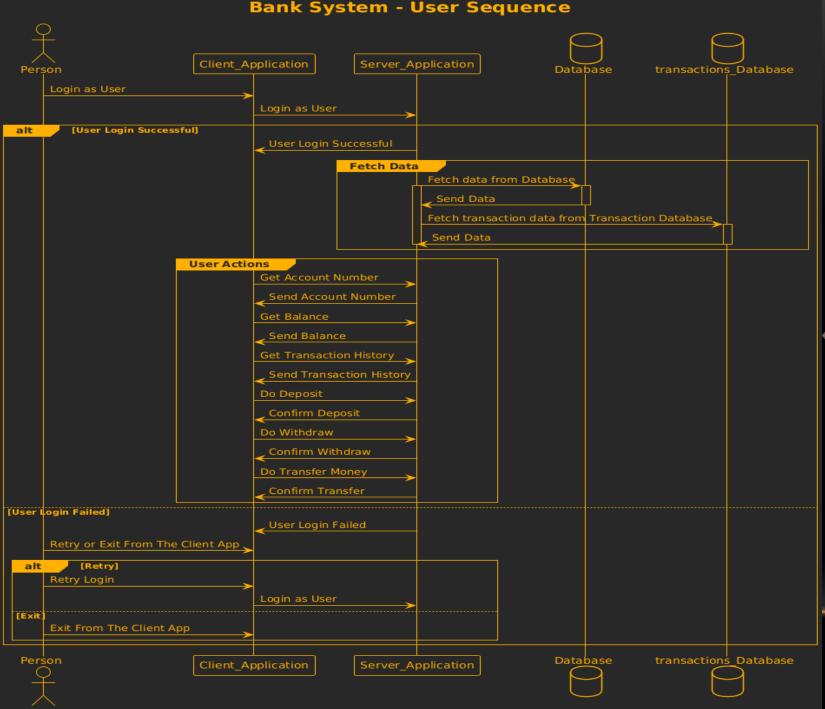


Connection sequence Diagram



### Admin sequence Diagram

#### **Bank System - User Sequence**



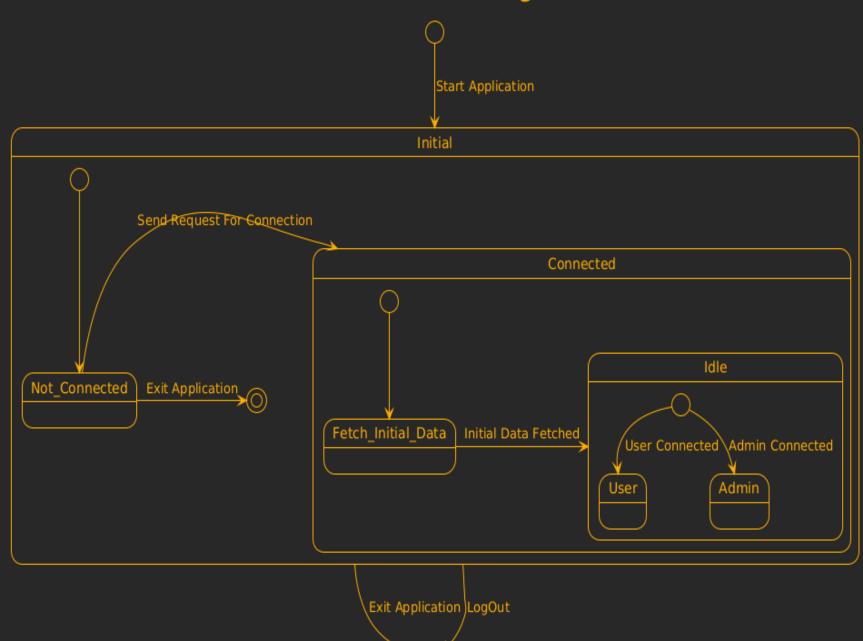


### **Bank System** Client\_Application Server\_Application Fetch data from Database Send Data Fetch transaction data from Transaction Database, Send Account Number Confirm User Data Update Delete User Login Falled) Fetch data from Database Sond Data Setch transaction data from Transaction Database Send Data set Account Number Send Account Number Send Transaction History ogin Failed! Retry Login Client\_Application Server\_Application

## Complete sequence Diagram

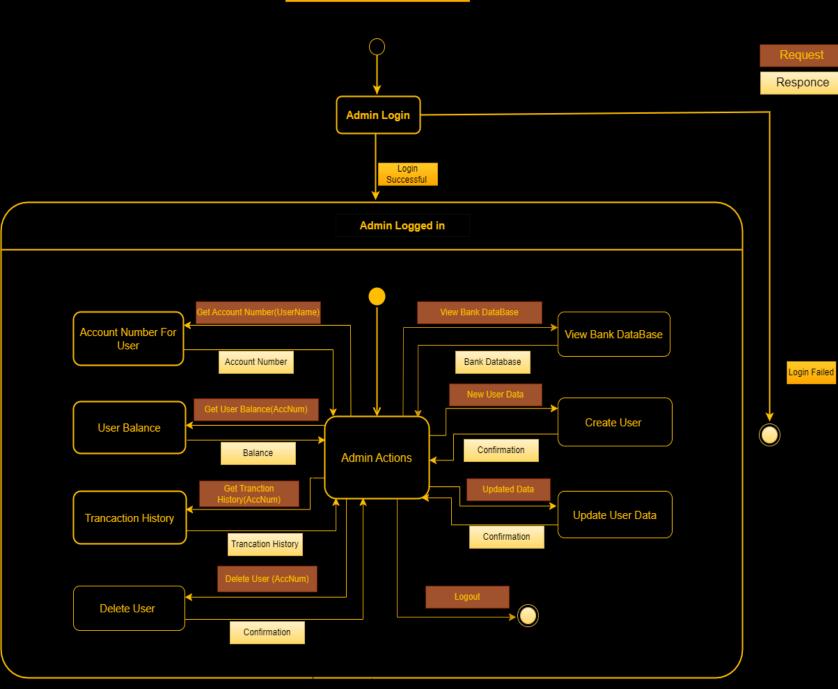
## State Diagram

#### **Connection State Diagram**

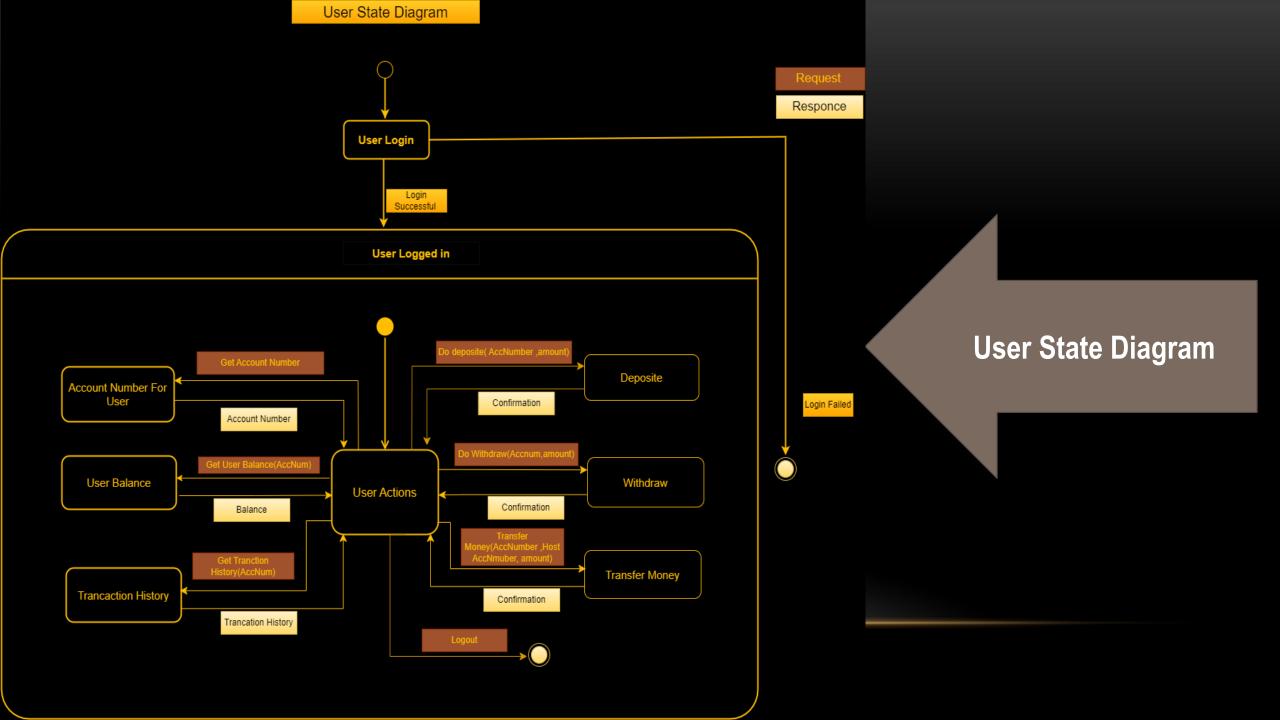


## Connection State Diagram

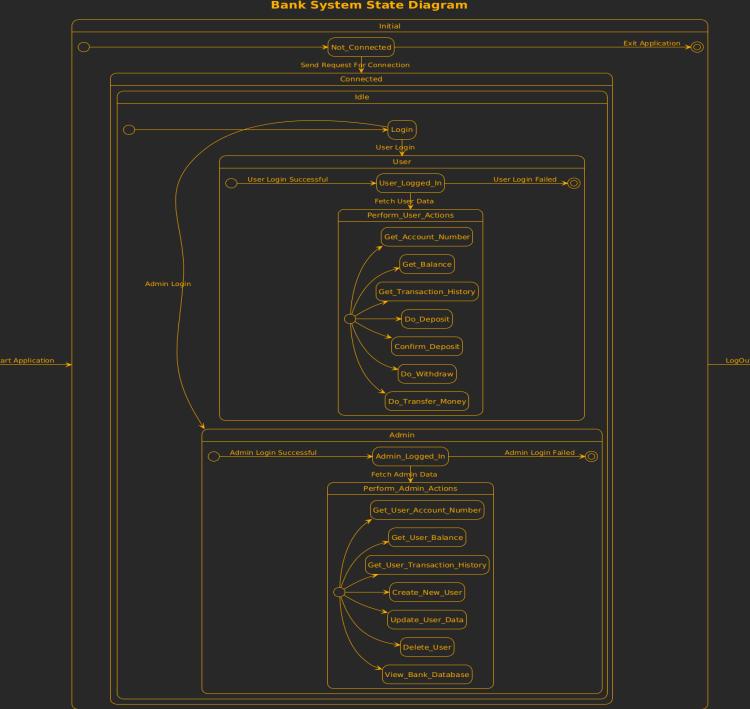
Admin State Diagram



**Admin State Diagram** 



#### **Bank System State Diagram**



**Complete State Diagram** 

# The End