BANK
OF
BUFFALO

What Bank of Buffalo Project Does

As we find everything being digitized or automated around us, Bank of Buffalo DBMS project aims to modernize the way information is stored, managed, and accessed, which will then provide a seamless and enhanced banking experience to the customers.

This DBMS project adopts a customer-centric approach to improve the customer relationship. It will maintain the details of a bank, its branches, employees, customers, their bank account(s), transactions, loans and insurances they've opted for. Overall idea is to build a sophisticated database management system where information related to any of these can be easily accessible and retrieved hassle free.

Bank of Buffalo Scope

Customer friendly accessibility

Database will have all the tables linked to each other with proper relationships for customers to access their information with simple queries without any need for them to go deep with the knowledge of DBMS.

Robust Design

Unlike complicated databases, this database will be simple enough to understand as well as will be able to provide all the information with simple queries.

A store for huge info

Bank and its branches, transactional information, customer details, account details, employee details, loan applications, insurance options and many more implementations are available for you.

Building Blocks

Beginning with the analysis of data, followed by the Entity-Relationship diagram, and then proceeded forward to designing the tables that store information and later get normalized. All this will be included in the data models for the final step of database implementation.

Bank of Buffalo ER Diagram

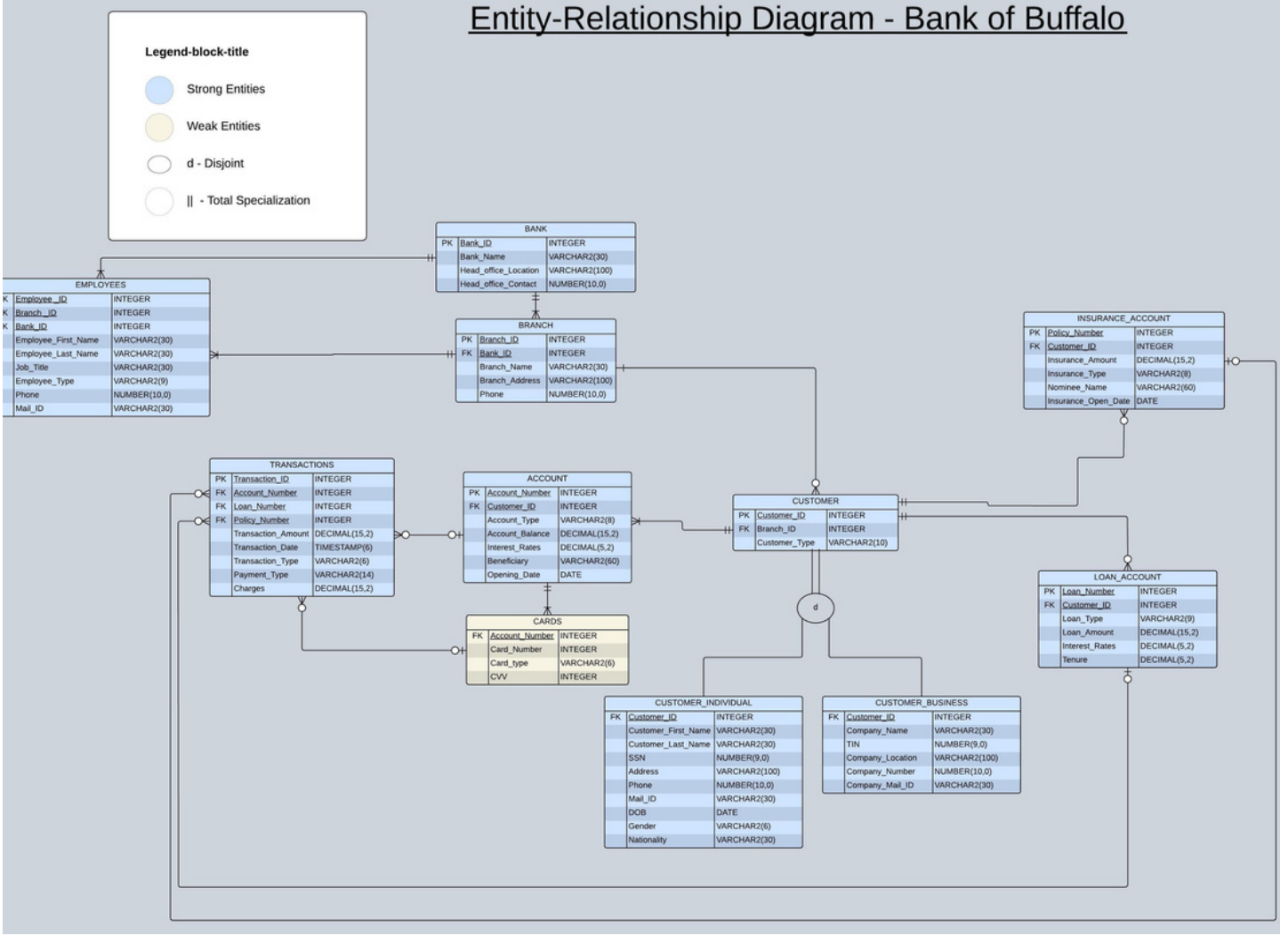
The bank sets up multiple branches, which contain information about its customers who want to open an account and employees who are recruited by the bank to work in its branches. A customer, when opening a bank account, receives all the account information, which includes the account number, type, opening date, etc. A customer is segregated into two types: individual or business, depending upon their requirements. All customers are entitled to receive services such as

- Insurance for vehicles, health and life.
- Loans for personal, home, education and vehicles.

Regardless of whether they open a savings or a checking account, if a customer wants to opt for any of these services, they will be given different corresponding service account details.

The two different types of cards which the bank provides are credit and debit cards. The bank also offers several payment methods to perform transactions, such as

- Paying in the bank using cash, a credit card or a debit card.
- Paying online through net banking.
- Wire transfers.



Bank of Buffalo Business Rules

- The bank has connections with multiple branches as indicated by the "Bank" and "Branch" entities. There is a one to many relationship which means one bank can have many branches, but all branches are associated only with one bank. There is a foreign key "Bank_ID" in the "Branch" entity.

- Each branch can have many employees working under it. Each employee is exclusively associated only with their branch. This is a one to many relationship, where "Branch_ID" in the "Employees" table is a foreign key to the "Branch" entity.

- Customers must have at least one account created in a branch to receive a unique Customer ID. As there is one to many relationship between the "Customer" and "Account" entities, irrespective of the number of accounts a customer has, each account should pertain only to that customer.

- Customers will be categorized as either individuals or businesses. This is represented in the ERD where the "Customer" entity is divided into "Customer_Individual" and "Customer_Business" entities with a disjoint connection.

- Individual customers should provide their first name and last name during account registration processes. Business customers would be given an option to register their accounts under their business name. Both of the distinct entities are shown in the ERD diagram with appropriate attributes.

- Account holders will receive one mandatory debit card and an optional credit card based on their preferences. These cards must be linked only to one unique account number, hence one to many relationship between the "Account" and "Cards" entities.

- Customers can also leverage the additional services offered by the bank, such as Loans and Insurance. This is shown in the ERD by the one to many relationships from the "Customer" entity to the "Loan_Account" and "Insurance_Account" entities. Hence each customer can have different types of loans and insurances. A unique loan number or policy number is generated once the customer chooses to enroll in each type.

- The "Account" and "Transactions" entities have a one to many relationship, which indicates that accounts can accommodate any number of transactions made by the customer in their savings/checking account, loan account, and insurance payments using the available payment methods. Each transaction should belong to one unique account.

SQL Code

DDL, DML and Select statements of Bank of Buffalo DB are available in the following Oracle

Live SQL link : *Bank of Buffalo DB Scripts*