

The schema is in Boyce-Codd Normal Form (BCNF) as each table possesses a primary key, and all non-key attributes are fully functionally dependent on the primary key without any partial or transitive dependencies. This ensures data integrity and efficient storage by minimizing redundancy and eliminating anomalies.

Below is the schema in BCNF. Table Attributes and their respective attribute types are shown.

Client User

Table name: Client_User

Table Attributes:

user_id (Primary Key)

first_name

last_name

email

last_login

Table Attribute Types:

user_id: INT (Primary Key)

first_name: TEXT

last_name: TEXT

email: TEXT

last_login: DATE

Property Portfolio:

Table Name: Property_Portfolio

Table Attributes:

portfolio_id (Primary Key)

user_id: (Foreign Key referencing Client_User)

name

total_value

status

Table Attribute Types:

portfolio_id: INT (Primary Key)

user_id: INT (Foreign Key referencing Client_User)

name: TEXT

total_value: INT

status: BOOLEAN

Lease Table

Table Name: Lease

Table Attributes:

lease_id (Primary Key)

lease_start_date

lease_end_date

rent_amount

renewal_date

summary

property_id (Foreign Key referencing Property)

portfolio_id (Foreign Key referencing Property_Portfolio)

Table Attribute Types:

lease_id: INT (Primary Key)

property_id: INT (Foreign Key referencing Property)

portfolio_id: INT (Foreign Key referencing Property_Portfolio)

lease_start_date: DATE

lease_end_date: DATE

rent_amount: INT

renewal_date: INT

summary: TEXT

Tenant Table:

Table Name: Tenant

Table Attributes:

tenant_id (Primary Key)

first_name

last_name

email

age

Table Attribute Types:

tenant_id: INT (Primary Key)

first_name: TEXT

last_name: TEXT

contact_information: TEXT

email: TEXT

age: INT

Lease_Tenant Junction Table:

Table Name: Lease_Tenant

Table Attributes:

lease_id (Foreign Key referencing Lease)

tenant_id (Foreign Key referencing Tenant)

Table Attribute Types:

lease_id: INT (Foreign Key referencing Lease)

tenant_id: INT (Foreign Key referencing Tenant)

Property Table:

Table Name: Property

Table Attributes:

property_id (Primary Key)

value

address

acquisition_date

square_footage

property_type_id (Foreign Key referencing Property_Type)

portfolio_id (Foreign key referencing Property_Portfolio)

Table Attribute Types:

property_id: INT (Primary Key)

value: INT

address: TEXT

acquisition_date: DATE

square_footage: INT

property_type_id: INT (Foreign Key referencing Property_Type)

portfolio_id: INT (Foreign key referencing Property_Portfolio)

Property_Type Table:

Table Name: Property_Type

Table Attributes:

property_type_id (Primary Key)

name

Table Attribute Types:

property_type_id: INT (Primary Key)

name: TEXT

Financial_Report Table:

Table Name: Financial_Report

Table Attributes:

report_id (Primary Key)

period_start_date

period_end_date

income

expenses

report_summary

property_id (Foreign Key referencing Property)

report_type_id (Foreign Key referencing Report_Type)

portfolio_id (Foreign Key referencing Property_Portfolio)

Table Attribute Types:

report_id: INT (Primary Key)

period_start_date: DATE

period_end_date: DATE

income: INT

expenses: INT

report_summary: INT

property_id: INT (Foreign Key referencing Property)

report_type_id: INT (Foreign Key referencing Report_Type)

portfolio_id: INT (Foreign Key referencing Property_portfolio)

Report_Type

Table Name: Report_Type

Table Attributes:

report_id_type (Primary Key)

name

Table Attribute Types:

report_id_type: INT (Primary Key)

name: TEXT

Transactions

Table Name: Transactions

Table Attributes:

transaction_id: (Primary Key)

user_id (Foreign Key referencing Client_User)

transaction_type_id: (Foreign Key referencing Transaction_type)

portfolio_id (Foreign Key referencing Property_Portfolio)

amount

transaction_date

description

Table Attribute Types:

transaction_id: INT (Primary Key)

user_id: INT (Foreign Key referencing Client_User)

transaction_type_id: INT (Foreign Key referencing Transaction_type)

portfolio_id: INT (Foreign Key referencing Portfolio)

amount: INT

transaction_date: DATE

description: TEXT

Transaction_type

Table Name: Transaction_Type

Table Attributes:

transaction_type_id: (Primary Key)

name

Table Attribute Types:

transaction_type_id: INT (Primary Key)

name: TEXT