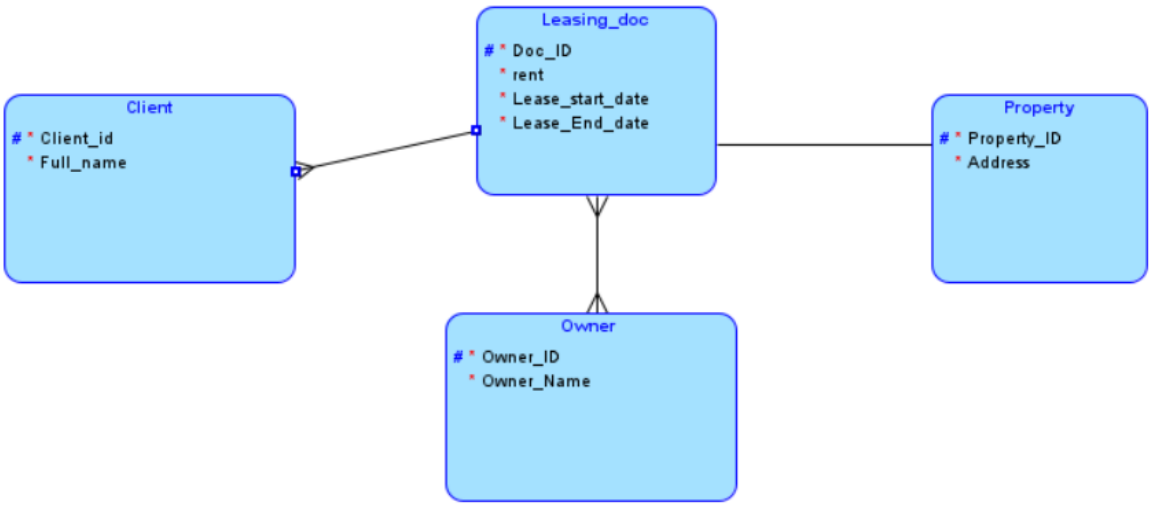
1) **ER Diagram :**



2) **Normalisation:**

1NF Form:

Achieving 1NF requires that each property only contains atomic (indivisible) values and that there are no recurring groups or arrays. It appears that in this situation, each attribute already has atomic values.

Client_ID	Client_fullname	Owner_ID	Owner_name	Property_id	Address	Doc_ID (Primary Key)	Rent (IN $)	Least_start_date	Lease_end_date
235	John k	322	vijay	P2	23 East view	512Q	4000	09/19/2023	09/19/2024
456	Raj f	321	rocky	P3	18 major street	125Z	5000	01/09/2022	08/09/2023

2NF Form:

Two requirements must be met in order to attain 2NF:

- Be in 1NF (Attained above).
- Ensure that non-prime attributes—those that aren't a part of the primary key—are utterly reliant on the complete primary key.

Doc_ID (Primary Key)	Rent (IN $)	Least_start_date	Lease_end_date	Client_ID (PK)	Owner_ID (PK)	Property_id (PK)
512Q	4000	09/19/2023	09/19/2024	235	322	P2
125Z	5000	01/09/2022	08/09/2023	456	321	P3

Client_ID	Client_fullname
235	John k
456	Raj f

Owner_ID	Owner_name
322	vijay
321	rocky

Property_id	Address
P2	23 East view
P3	18 major street

3NF Form:

Two requirements must be met in order to attain 3NF:

- Be a member of 2NF, which is already attained above..
- A non-prime attribute should not depend on another non-prime attribute, thus make sure there are no transitive dependencies.

Doc_ID (Primary Key)	Rent (IN $)	Least_start_date	Lease_end_date
512Q	4000	09/19/2023	09/19/2024
125Z	5000	01/09/2022	08/09/2023

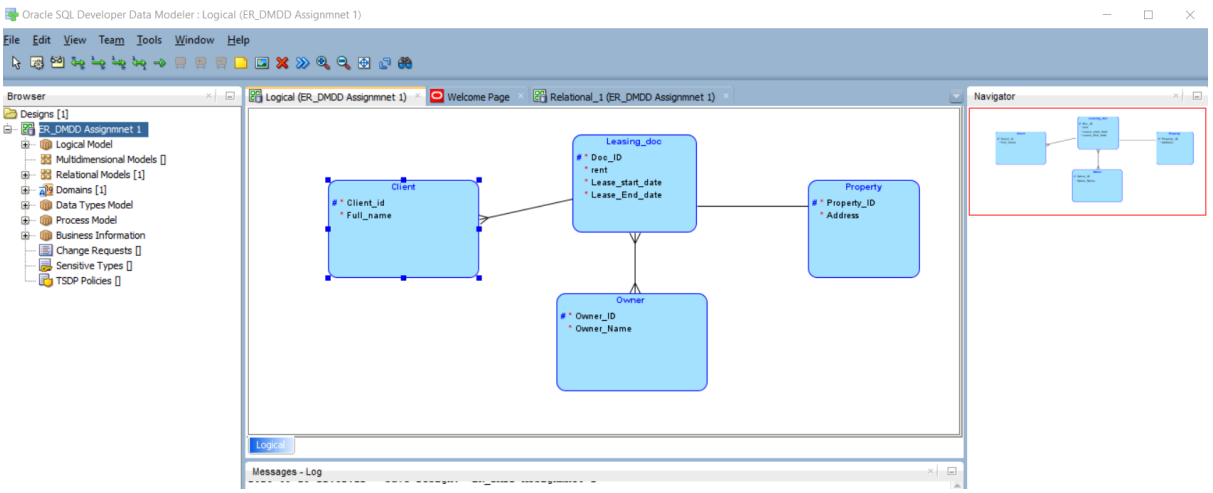
Client_ID	Client_fullname
235	John k
456	Raj f

Owner_ID	Owner_name
322	vijay
321	rocky

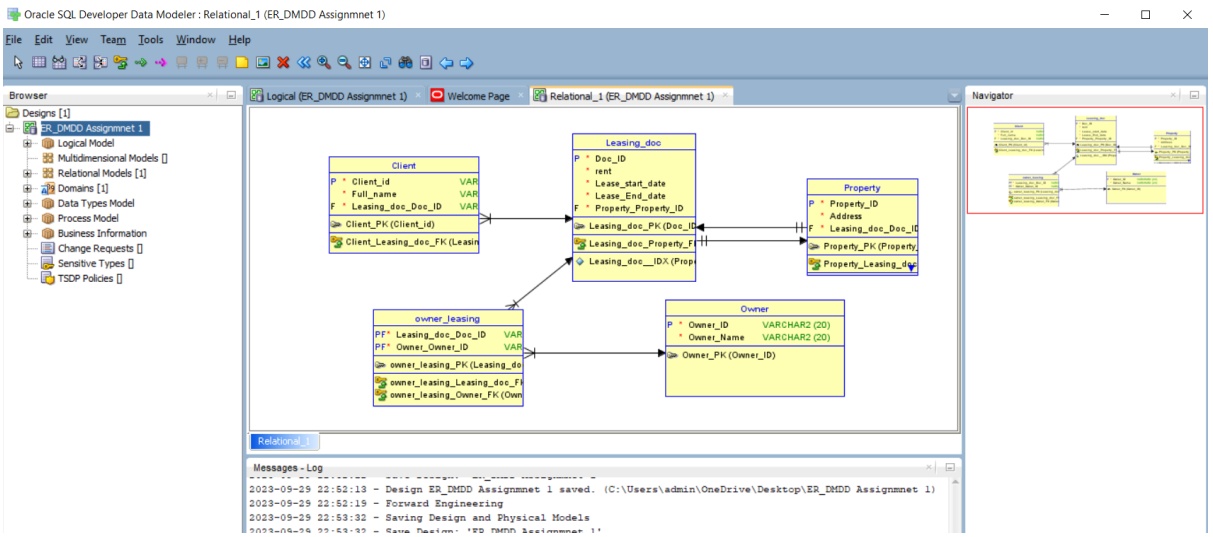
Property _id	Address
P2	23 East view
P3	18 major street

3) **Logical and Relational Model**

Logical Model:



Relational Model:



4) **DDL Script is as follows** :

```
CREATE TABLE client (
    client_id          VARCHAR2(20) NOT NULL,
    full_name          VARCHAR2(20) NOT NULL,
    leasing_doc_doc_id VARCHAR2(20) NOT NULL
```

```
);

ALTER TABLE client ADD CONSTRAINT client_pk PRIMARY KEY ( client_id );

CREATE TABLE leasing_doc (
    doc_id              VARCHAR2(20) NOT NULL,
    rent                VARCHAR2(20) NOT NULL,
    lease_start_date    DATE NOT NULL,
    lease_end_date      DATE NOT NULL,
    property_property_id VARCHAR2(20) NOT NULL
);

CREATE UNIQUE INDEX leasing_doc__idx ON
    leasing_doc (
        property_property_id
    ASC );

ALTER TABLE leasing_doc ADD CONSTRAINT leasing_doc_pk PRIMARY KEY ( doc_id );

CREATE TABLE owner (
    owner_id   VARCHAR2(20) NOT NULL,
    owner_name VARCHAR2(20) NOT NULL
);

ALTER TABLE owner ADD CONSTRAINT owner_pk PRIMARY KEY ( owner_id );

CREATE TABLE owner_leasing (
    leasing_doc_doc_id VARCHAR2(20) NOT NULL,
    owner_owner_id     VARCHAR2(20) NOT NULL
);

ALTER TABLE owner_leasing ADD CONSTRAINT owner_leasing_pk PRIMARY KEY ( leasing_doc_doc_id,
                                                                       owner_owner_id );

CREATE TABLE property (
    property_id        VARCHAR2(20) NOT NULL,
    address            VARCHAR2(20) NOT NULL,
    leasing_doc_doc_id VARCHAR2(20) NOT NULL
);

CREATE UNIQUE INDEX property__idx ON
    property (
        leasing_doc_doc_id
    ASC );

ALTER TABLE property ADD CONSTRAINT property_pk PRIMARY KEY ( property_id );

ALTER TABLE client
    ADD CONSTRAINT client_leasing_doc_fk FOREIGN KEY ( leasing_doc_doc_id )
        REFERENCES leasing_doc ( doc_id );

ALTER TABLE leasing_doc
    ADD CONSTRAINT leasing_doc_property_fk FOREIGN KEY ( property_property_id )
        REFERENCES property ( property_id );

ALTER TABLE owner_leasing
    ADD CONSTRAINT owner_leasing_leasing_doc_fk FOREIGN KEY ( leasing_doc_doc_id )
        REFERENCES leasing_doc ( doc_id );

ALTER TABLE owner_leasing
    ADD CONSTRAINT owner_leasing_owner_fk FOREIGN KEY ( owner_owner_id )
        REFERENCES owner ( owner_id );

ALTER TABLE property
    ADD CONSTRAINT property_leasing_doc_fk FOREIGN KEY ( leasing_doc_doc_id )
        REFERENCES leasing_doc ( doc_id );
```

5) **Screenshots of Created user and executed script:**