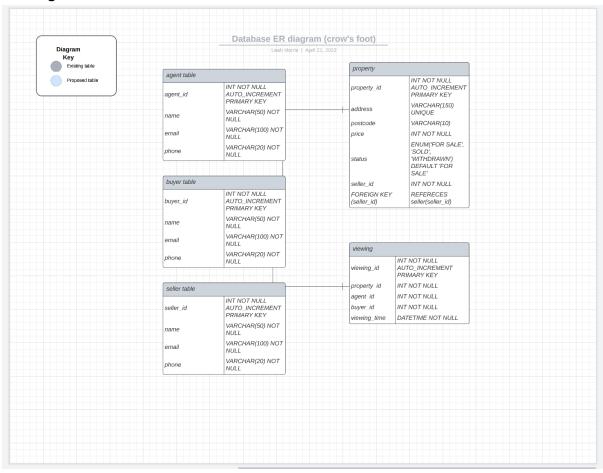
### **ER Diagram**



The agent, buyer, and seller tables store details about each person involved in the buying and selling process.

```
-- Create agent table
CREATE TABLE agent (
 agent id INT NOT NULL AUTO INCREMENT PRIMARY KEY,
 name VARCHAR(50) NOT NULL,
 email VARCHAR(100) NOT NULL,
 phone VARCHAR(20) NOT NULL
);
-- Create buyer table
CREATE TABLE buyer (
 buyer_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
 name VARCHAR(50) NOT NULL,
 email VARCHAR(100) NOT NULL,
 phone VARCHAR(20) NOT NULL
);
-- Create seller table
CREATE TABLE seller (
```

```
seller_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY, name VARCHAR(50) NOT NULL, email VARCHAR(100) NOT NULL, phone VARCHAR(20) NOT NULL
);
```

#### -- Create property table

The property table stores details about each property, including the status (which can be changed to "SOLD" or "WITHDRAWN"), and a foreign key reference to the seller table.

```
CREATE TABLE property (
property_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
address VARCHAR(150) UNIQUE,
postcode VARCHAR(10),
price INT NOT NULL,
status ENUM('FOR SALE', 'SOLD', 'WITHDRAWN') DEFAULT 'FOR SALE',
seller_id INT NOT NULL,
FOREIGN KEY (seller_id) REFERENCES seller(seller_id)
);
```

## -- Create viewing table

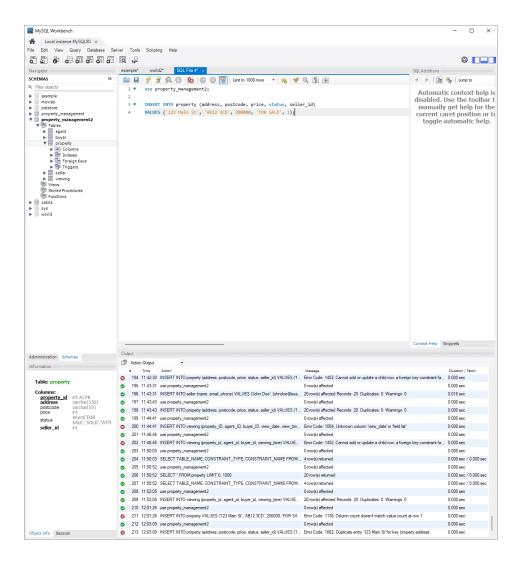
The viewing table tracks scheduled viewings for each property, including the agent and buyer involved and the specific time slot chosen.

```
CREATE TABLE viewing (
viewing_id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
property_id INT NOT NULL,
agent_id INT NOT NULL,
buyer_id INT NOT NULL,
viewing_time DATETIME NOT NULL,
CONSTRAINT property_fk FOREIGN KEY (property_id) REFERENCES
property(property_id),
CONSTRAINT agent_fk FOREIGN KEY (agent_id) REFERENCES agent(agent_id),
CONSTRAINT buyer_fk FOREIGN KEY (buyer_id) REFERENCES buyer(buyer_id));
```

#### **Feature Manage Property**

#### **Scenario: Add Property**

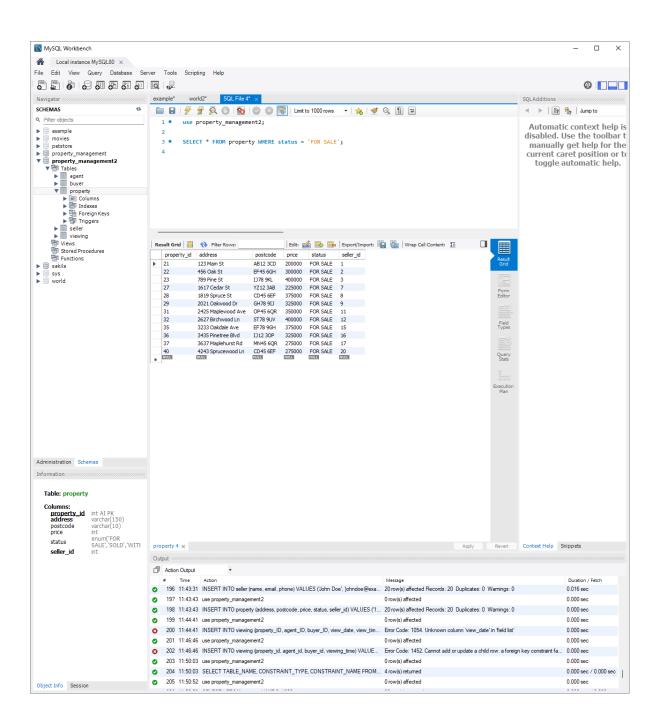
- Add in the property using INSERT INTO property (address, postcode, price, status, seller id) and VALUES.
- If a duplicate property tries to get added, the code will return a 'Duplicate entry' error.
- If it does not exist, it will be added to the data catalogue stored in the property table.



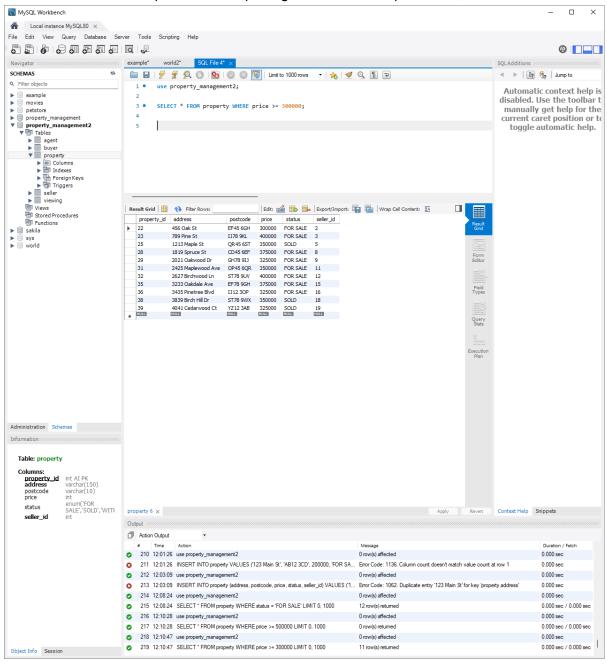
## **Scenario: Find Properties**

- Properties with corresponding criteria are returned by using different statements, shown in the screenshots:

1: Properties for sale



## 2: Properties with a price greater than or equal to 300,000



#### MySQL Workbench ★ Local instance MySQL80 × File Edit View Query Database Server Tools Scripting Help @ **|** □ □ □ | \( \frac{\psi}{\psi} \) \( \frac{\psi}{\psi} \) \( \frac{\quad \quad \qq \quad → I I Jump to use property management2; Automatic context help is disabled. Use the toolbar t SELECT \* FROM property WHERE postcode LIKE 'ST%'; manually get help for the current caret position or to property\_management2 toggle automatic help. agent buyer property Columns Columns Indexes Foreign Keys Triggers seller viewing Views Stored Procedures Functions | Edit: 🕍 🔜 | Export/Import: 📳 🐻 | Wrap Cell Content: 🏗 price status seller\_id 400000 FOR SALE 12 2627 Birchwood Ln ST78 9UV 3839 Birch Hill Dr ST78 9WX 350000 SOLD 18 Administration Schemas Table: property Columns: olumns: property\_id address varchar(150) postcode varchar(10) price int status Satte', 'SOLD', 'WITh property 8 × Context Help Snippets Output ::: Action Output 214 12:08:24 use property\_management2 0 row(s) affected 0.000 sec 215 12:08:24 SELECT \* FROM property WHERE status = 'FOR SALE' LIMIT 0, 1000 12 row(s) returned 0.000 sec / 0.000 sec 216 12:10:28 use property\_management2 0 row(s) affected 0.000 sec 217 12:10:28 SELECT \* FROM property WHERE price >= 500000 LIMIT 0, 1000 0 row(s) returned 0.000 sec / 0.000 sec 218 12:10:47 use property\_management2 0 row(s) affected 0.000 sec 219 12:10:47 SELECT \* FROM property WHERE price >= 300000 LIMIT 0, 1000 0.000 sec / 0.000 sec 11 row(s) returned 220 12:12:03 use property\_management2 0 row(s) affected 0.000 sec 221 12:12:03 SELECT \* FROM property WHERE postcode LIKE 'SW1%' LIMIT 0, 1000 222 12:12:19 use property\_management2 0.000 sec 0 row(s) affected

### 3: Properties that have a postcode starting with ST

#### Scenario: Withdraw Property that is NOT SOLD

Object Info Session

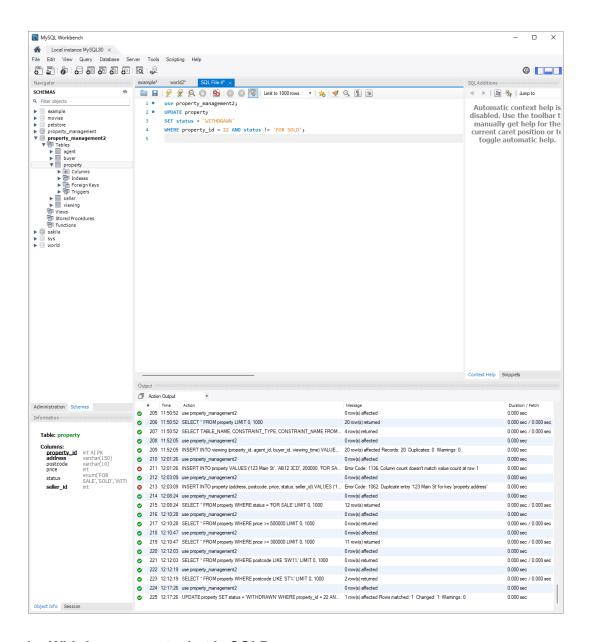
 To change a property's status to WITHDRAWN using my property table, I have used the UPDATE command followed by setting the status and entering the property parameters.

2 row(s) returned

0.000 sec / 0.000 sec

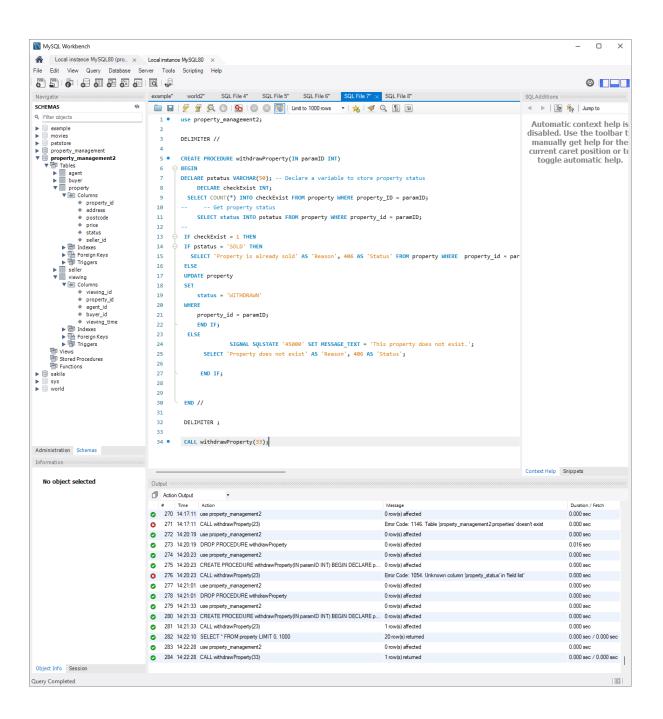
223 12:12:19 SELECT \* FROM property WHERE postcode LIKE 'ST%' LIMIT 0, 1000

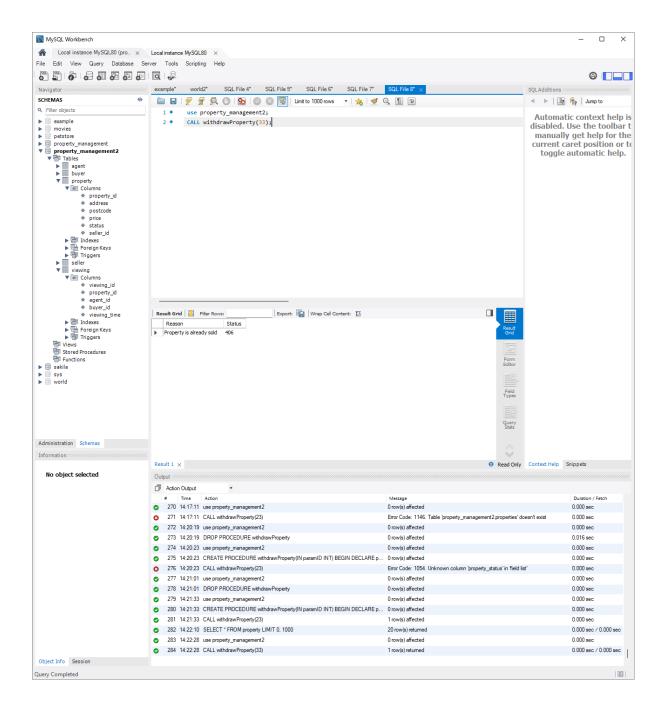
- This checks that the property exists, the property has the status FOR SALE, and then changed that status to WITHDRAWN if both parameters are met.



#### Scenario: Withdraw property that is SOLD

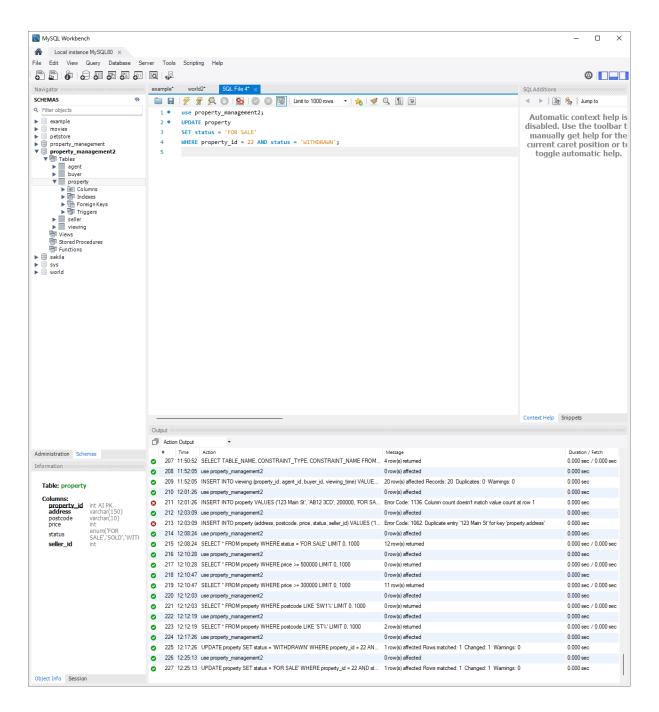
- To withdraw a property that is already sold, the following procedure was used.
- It checks if the property already exists and checks that the property is not sold.
- Then it tries to change a sold property to withdrawn, and if the property status is sold, it returns the error '406 Property is already sold' (seen in the second screenshot).





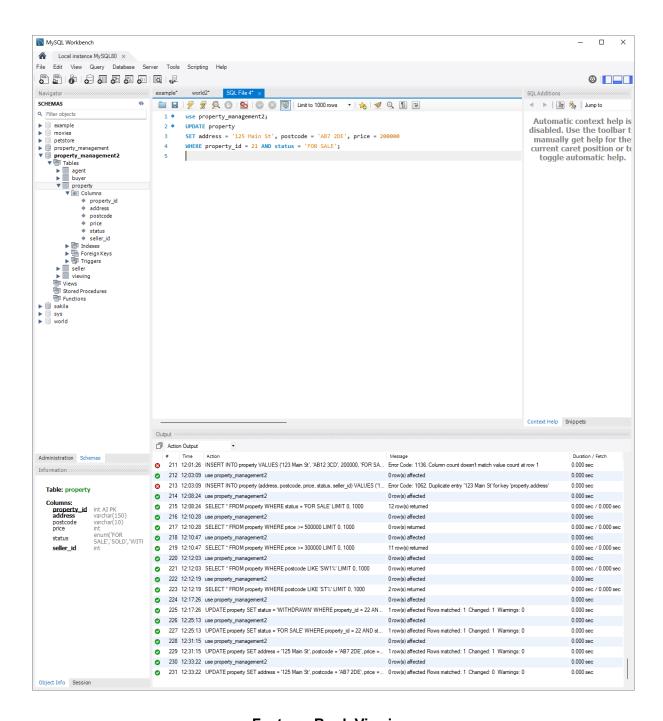
#### Scenario: Resubmit property that has been WITHDRAWN

- To resubmit a property that has been withdrawn, I used the UPDATE command followed by setting the status and entering the property parameters.
- This checks if the property exists, if it has been withdrawn, and then resubmits the property with the status 'FOR SALE'.



#### Scenario: Amend property details

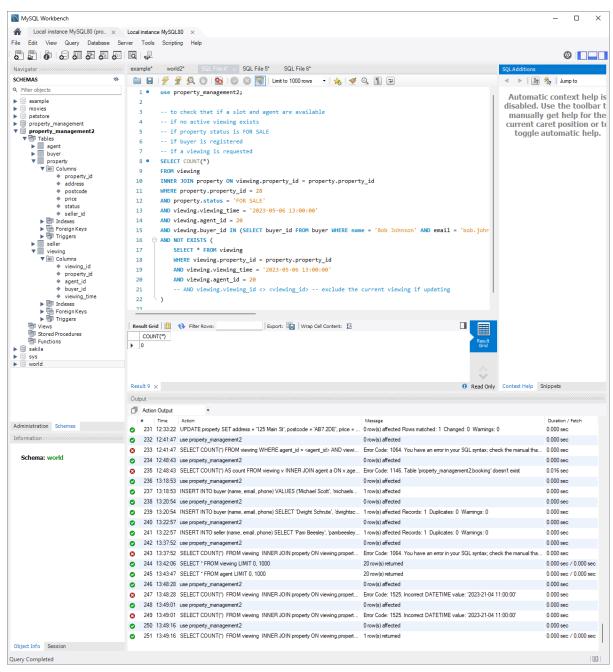
- To amend the property details, I have used the UPDATE command followed by SET and the new details and WHERE to change the correct property
- This checks that the property exists, and the status is also for sale, then the property details are updated.



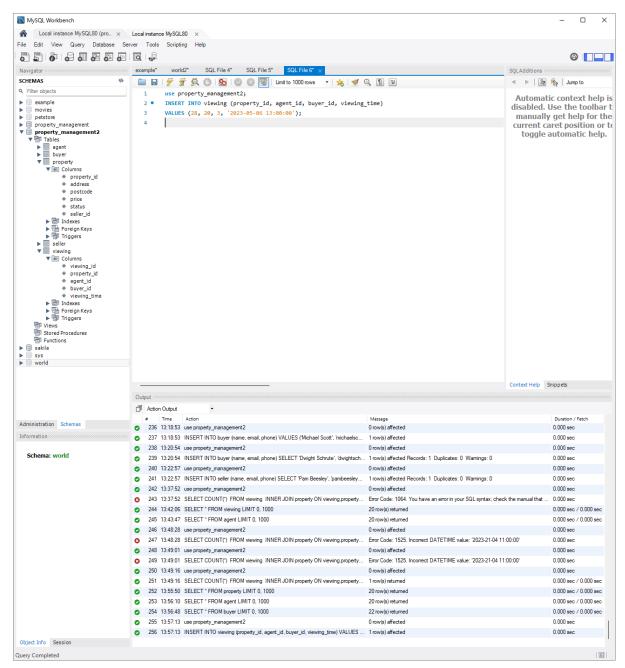
## Feature: Book Viewing

#### Scenario: Slot and Agent are available

- For this scenario I have used different commands to check if a slot and agent are available, if no active viewing exists, if a property status is FOR SALE, if a buyer is registered and if a viewing is requested
- If no viewing exists for the given data, the database returns 0 and an appointment can be created.

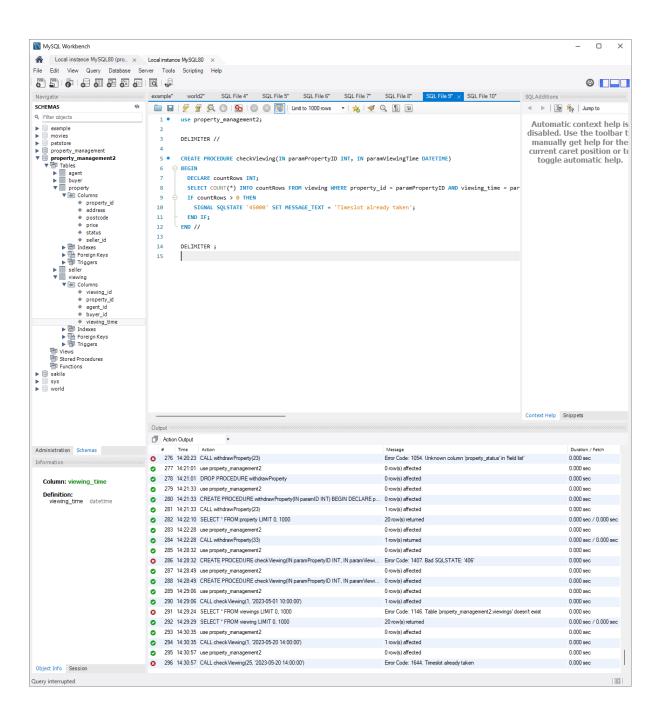


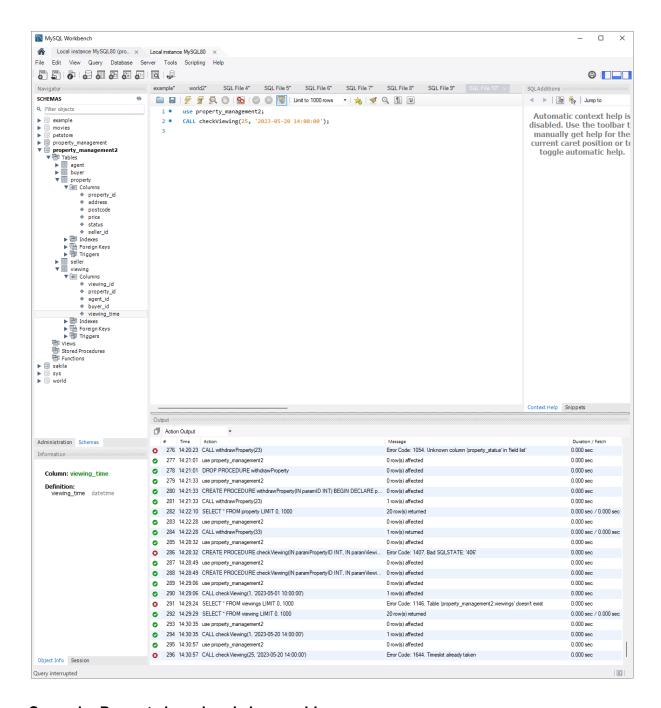
- To create a viewing, I have used the below code after checking the viewing does not already exist.
- If it does not exist, the viewing is created and inserted into the viewing table.



#### Scenario: Time Slot not available

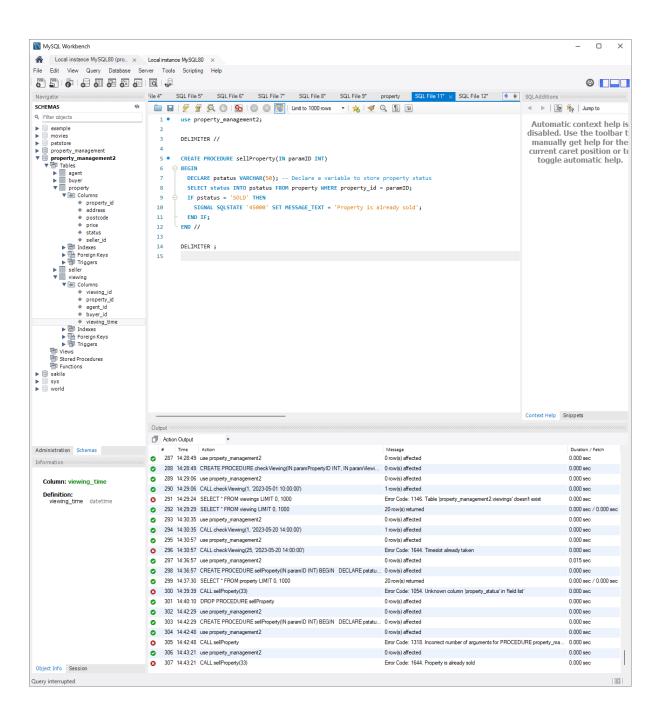
- For this scenario I created a procedure to check if a viewing already exists for a given property and timeslot, and returns an error if it does.
- In the second screenshot, you can see that as the viewing already exists for the given parameters, it returns 'Time slot already taken' in the output console.

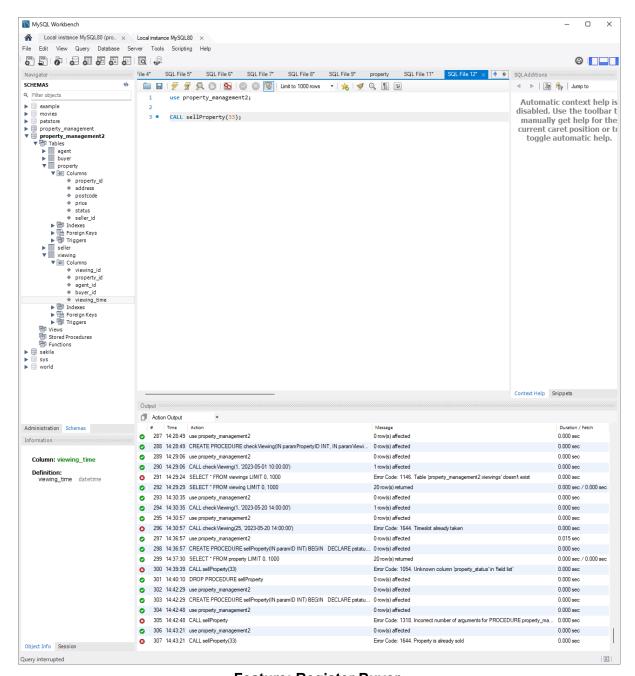




## Scenario: Property has already been sold

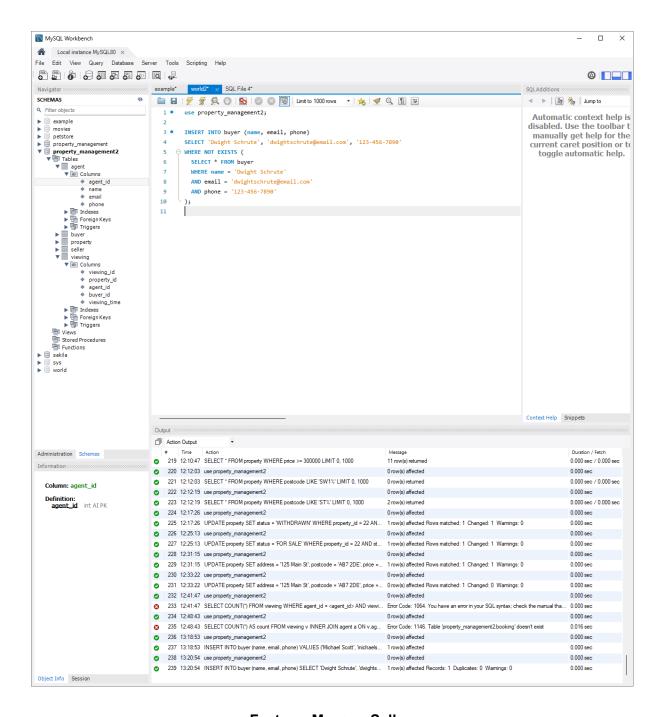
- For this scenario, I created a procedure to check if a property has already been sold (status is SOLD). If it is sold, it will return an error 'Property is already sold' in the output console.
- In the second screenshot you can see that because the property is already sold, it is returning the error in the console.





# Feature: Register Buyer

- To register a new buyer into my 'buyer' table I used the INSERT INTO command followed by the values.
- I then used WHERE NOT EXISTS to check that the buyer is not already registered on the buyer table.



## Feature: Manage Seller

- To register a new seller into my 'seller' table I used the INSERT INTO command followed by the values.
- I then used WHERE NOT EXISTS to check that the seller is not already registered on the seller table.

