Managing User Permissions for Different Roles in Bookstore

Here are the different roles:

- **Manager:** Has full access (SELECT, INSERT, UPDATE, DELETE) to all tables (`books`, `authors`, `customers`, `orders`).
- **Sales Staff:** Can view books and customer information (SELECT) but cannot modify or delete data.
- **Inventory Staff:** Can add new books (INSERT) and update existing book information (UPDATE) but cannot access customer or order information.

```
CREATE TABLE authors (
  id INT PRIMARY KEY AUTO_INCREMENT,
  name VARCHAR(255) NOT NULL
);

CREATE TABLE customers (
  id INT PRIMARY KEY AUTO_INCREMENT,
  name VARCHAR(255) NOT NULL,
  email VARCHAR(255) NOT NULL
);

CREATE TABLE books (
  id INT PRIMARY KEY AUTO_INCREMENT,
  title VARCHAR(255) NOT NULL,
  author_id INT NOT NULL,
  FOREIGN KEY (author_id) REFERENCES authors(id)
);

CREATE TABLE orders (
  id INT PRIMARY KEY AUTO_INCREMENT,
  customer_id INT NOT NULL,
  book_id INT NOT NULL,
  FOREIGN KEY (customer_id) REFERENCES customers(id),
  FOREIGN KEY (book_id) REFERENCES books(id)
);
```

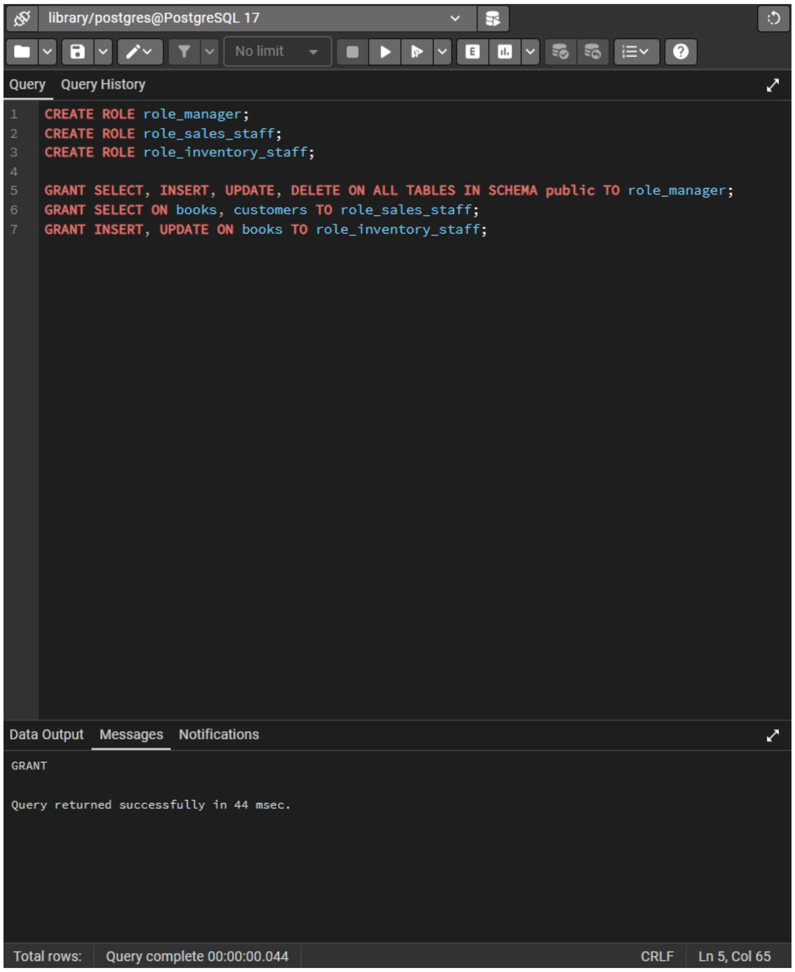
Creating Roles:

```
CREATE ROLE role_manager;
CREATE ROLE role_sales_staff;
CREATE ROLE role_inventory_staff;
```

Granting Privileges to Roles:/code

```
GRANT SELECT, INSERT, UPDATE, DELETE ON ALL TABLES TO role_manager;
GRANT SELECT ON books, customers TO role_sales_staff;
GRANT INSERT, UPDATE ON books TO role_inventory_staff;
```

Output:



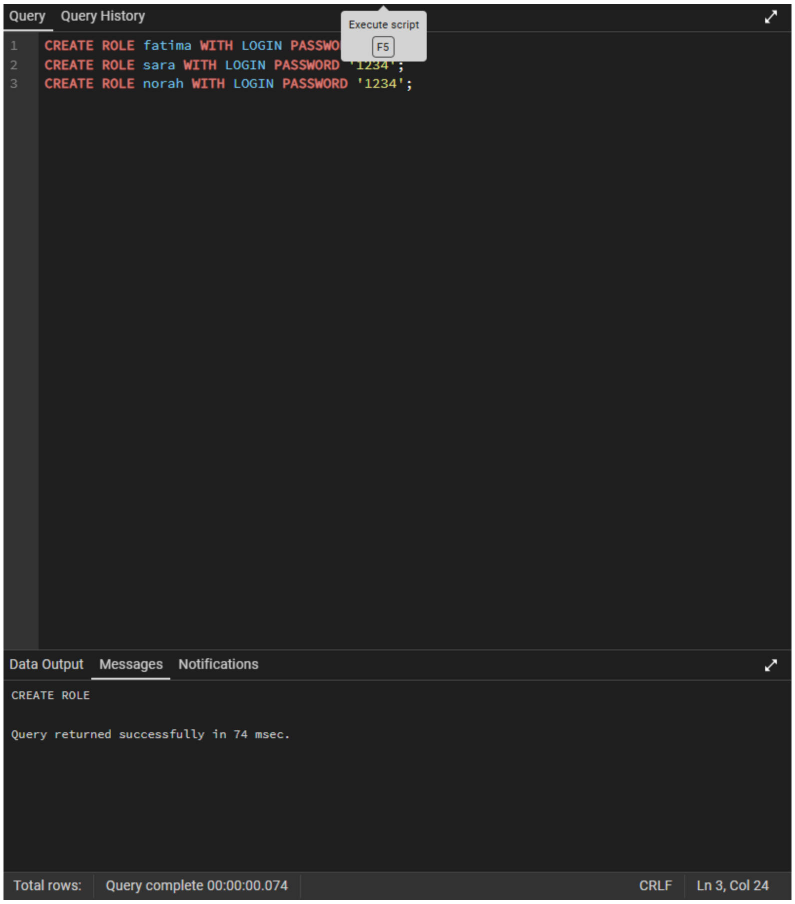
```
CREATE ROLE role_manager;
CREATE ROLE role_sales_staff;
CREATE ROLE role_inventory_staff;

GRANT SELECT, INSERT, UPDATE, DELETE ON ALL TABLES IN SCHEMA public TO role_manager;
GRANT SELECT ON books, customers TO role_sales_staff;
GRANT INSERT, UPDATE ON books TO role_inventory_staff;
```

```
GRANT

Query returned successfully in 44 msec.
```

Create Users:

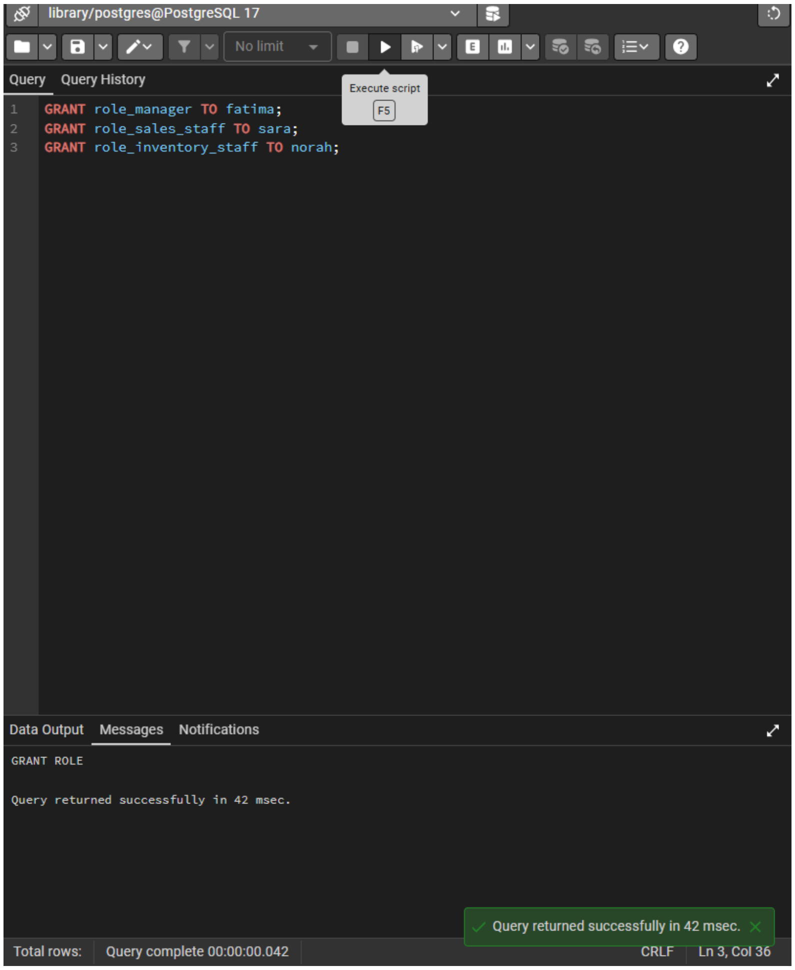


```
CREATE ROLE fatima WITH LOGIN PASSWO
CREATE ROLE sara WITH LOGIN PASSWORD '1234';
CREATE ROLE norah WITH LOGIN PASSWORD '1234';
```

```
CREATE ROLE

Query returned successfully in 74 msec.
```

Assigning Users to Roles:



```
GRANT role_manager TO fatima;
GRANT role_sales_staff TO sara;
GRANT role_inventory_staff TO norah;
```

```
GRANT ROLE

Query returned successfully in 42 msec.
```

Query returned successfully in 42 msec.

Total rows: Query complete 00:00:00.042 CRLF Ln 3, Col 36

Explanation:

- `fatima` (manager) has full access to all tables through the `role_manager` role.
- `sara` (sales staff) can only view the information in `books` and `customer` tables due to `role_sales_staff` permissions.
- `norah` (inventory staff) can add new books and update existing ones but cannot access customer or order information.