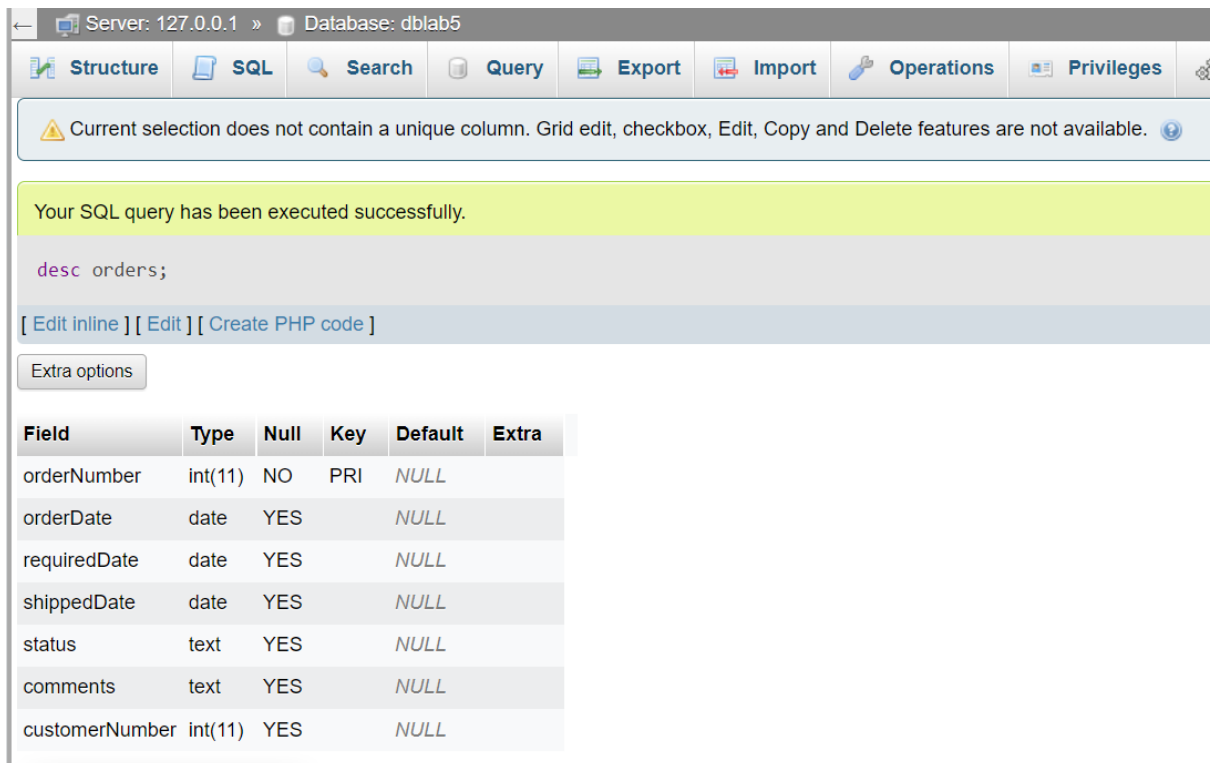


**Objective:** The objective of this lab is to utilize a stored procedure, transactions, and conditionals to rollback a transaction if a certain value is found, if a certain value is not found, insert into the database table.

1.

- a) Create a database and use the CREATE TABLE query for the orders table from the week 6 lecture.

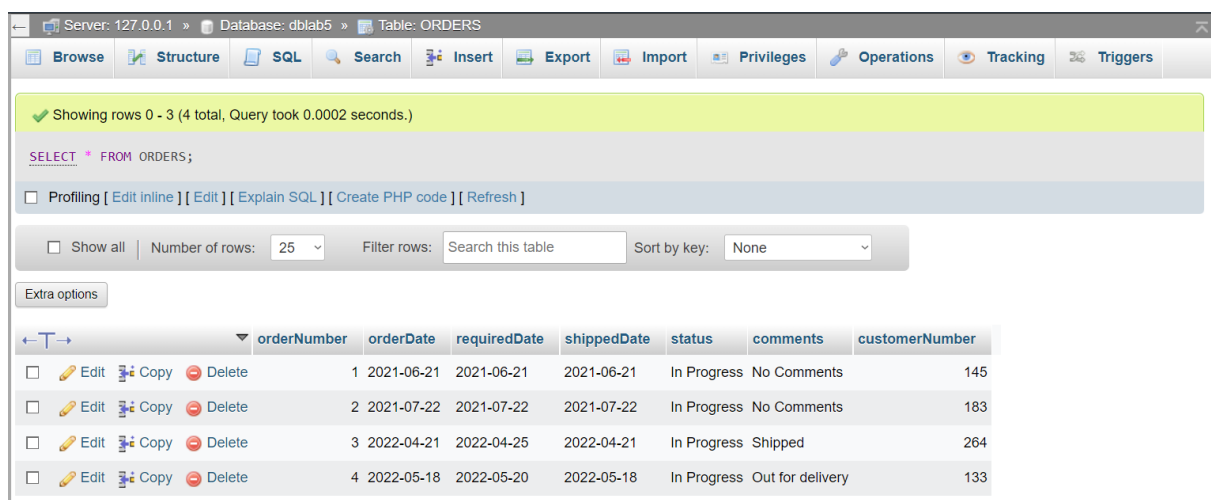


The screenshot shows a database management interface with the following components:

- Server: 127.0.0.1 » Database: dlab5
- Navigation tabs: Structure, SQL, Search, Query, Export, Import, Operations, Privileges
- Message: "Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available."
- Message: "Your SQL query has been executed successfully."
- SQL query: `desc orders;`
- Buttons: [ Edit inline ] [ Edit ] [ Create PHP code ]
- Extra options button
- Table structure:

| Field          | Type    | Null | Key | Default | Extra |
|----------------|---------|------|-----|---------|-------|
| orderNumber    | int(11) | NO   | PRI | NULL    |       |
| orderDate      | date    | YES  |     | NULL    |       |
| requiredDate   | date    | YES  |     | NULL    |       |
| shippedDate    | date    | YES  |     | NULL    |       |
| status         | text    | YES  |     | NULL    |       |
| comments       | text    | YES  |     | NULL    |       |
| customerNumber | int(11) | YES  |     | NULL    |       |

- b) Insert four rows of dummy data (the data can be whatever you like) into the orders table. Screenshot the result of a `SELECT *` query to prove that this step was completed.



The screenshot shows a database management interface with the following components:

- Server: 127.0.0.1 » Database: dlab5 » Table: ORDERS
- Navigation tabs: Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, Triggers
- Message: "Showing rows 0 - 3 (4 total, Query took 0.0002 seconds.)"
- SQL query: `SELECT * FROM ORDERS;`
- Buttons: [ Profiling ] [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
- Controls: ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None
- Extra options button
- Table data:

|   | orderNumber | orderDate  | requiredDate | shippedDate | status      | comments         | customerNumber |
|---|-------------|------------|--------------|-------------|-------------|------------------|----------------|
| <input type="checkbox"/> Edit Copy Delete | 1           | 2021-06-21 | 2021-06-21   | 2021-06-21  | In Progress | No Comments      | 145            |
| <input type="checkbox"/> Edit Copy Delete | 2           | 2021-07-22 | 2021-07-22   | 2021-07-22  | In Progress | No Comments      | 183            |
| <input type="checkbox"/> Edit Copy Delete | 3           | 2022-04-21 | 2022-04-25   | 2022-04-21  | In Progress | Shipped          | 264            |
| <input type="checkbox"/> Edit Copy Delete | 4           | 2022-05-18 | 2022-05-20   | 2022-05-18  | In Progress | Out for delivery | 133            |

**2. Using a stored procedure and a condition statement (if statement), start a transaction that inserts a new row into the orders table, the transaction should rollback if the orderNumber being inserted already exists. If the orderNumber does not exist, then it should insert into the table and commit. Include the stored procedure in the PDF that you submit for this lab. Prove that your stored procedure works by running it and screenshotting the result.**

Stored procedure:

```
-- Creating the Procedure and setting the Delimiter to $$
DELIMITER $$
CREATE OR REPLACE PROCEDURE Trans_Insert()
LANGUAGE SQL
DETERMINISTIC
SQL SECURITY DEFINER
COMMENT 'Using Transactions with Stored procedures'

BEGIN
    -- Declaring Variables 'torder' and 'torderNumber' to store the count of order numbers
    and the latest value of order number
    DECLARE torder DECIMAL(10,2) DEFAULT 0;
    DECLARE torderNumber DECIMAL(10,2) DEFAULT 0;

    -- Starting the Transaction
    START TRANSACTION;

    -- Getting the latest order number to our variable 'torderNumber'
    SELECT
    MAX(orderNumber) + 1
    INTO torderNumber
    FROM
    orders;

    -- Finding the Count of Ordernumber and storing the value in our variable 'torder'
    SELECT COUNT(orderNumber)
    INTO torder
    FROM orders
    WHERE orderNumber = torderNumber;

    -- Checking for condition to evaluate if ordernumber already exists
    IF (torder>0) THEN
        -- Transaction rolls back if condition is true
        ROLLBACK;
    ELSE
        -- Inserting new values

        INSERT INTO
        orders(orderNumber,orderDate,requiredDate,shippedDate,status,comments,customerNumber)
        VALUES(torderNumber,'2022-07-01','2022-07-03','2022-07-02','No Comment','At a
        hub near you',369);
```

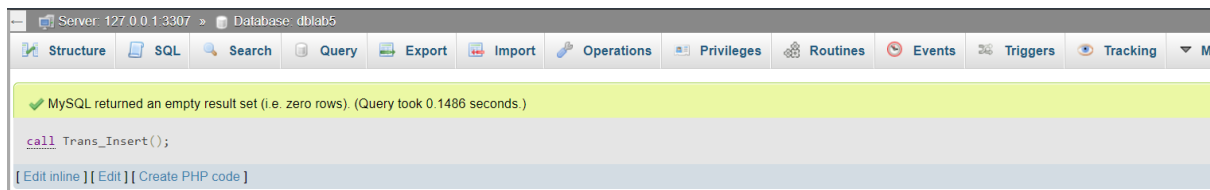
```

        -- Committing changes to the database
        COMMIT;
    End IF;
END;
$$
-- End of Procedure

```

## Calling the Stored procedure to show the result:

Call `Trans_Insert()`;



As we can see the output below, changes are committed only when an order is assigned a unique order number every time the stored procedure is run, otherwise the transaction will be rolled back.

(I have run the stored procedure twice before taking the screenshot, hence the row is inserted twice.)

`SELECT * from orders;`

The screenshot shows a MySQL database interface with the following details:

- Server: 127.0.0.1:3307 » Database: dblab5 » Table: orders
- Navigation tabs: Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, Triggers
- Status bar: Showing rows 0 - 5 (6 total, Query took 0.0002 seconds.)
- SQL Editor: `SELECT * from orders;`
- Buttons: [ Profiling ] [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
- Controls: ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None
- Extra options button

|   | orderNumber | orderDate  | requiredDate | shippedDate | status      | comments          | customerNumber |
|---|-------------|------------|--------------|-------------|-------------|-------------------|----------------|
| <input type="checkbox"/> Edit Copy Delete | 1           | 2021-06-21 | 2021-06-21   | 2021-06-21  | In Progress | No Comments       | 145            |
| <input type="checkbox"/> Edit Copy Delete | 2           | 2021-07-22 | 2021-07-22   | 2021-07-22  | In Progress | No Comments       | 183            |
| <input type="checkbox"/> Edit Copy Delete | 3           | 2022-04-21 | 2022-04-25   | 2022-04-21  | In Progress | Shipped           | 264            |
| <input type="checkbox"/> Edit Copy Delete | 4           | 2022-05-18 | 2022-05-20   | 2022-05-18  | In Progress | Out for delivery  | 133            |
| <input type="checkbox"/> Edit Copy Delete | 5           | 2022-07-01 | 2022-07-03   | 2022-07-02  | No Comment  | At a hub near you | 369            |
| <input type="checkbox"/> Edit Copy Delete | 6           | 2022-07-01 | 2022-07-03   | 2022-07-02  | No Comment  | At a hub near you | 369            |

**Attribution:**

*These assignments were completed by **Ravi Chandan Pandi**, and they represent his original work completed for academic purposes during his studies and self-learning purposes.*

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