

สร้างตารางข้อมูล 2 ตารางด้วย mysqlcli

OrderID	CustomerID	OrderDate
10308	2	1996-09-18
10309	37	1996-09-19
10310	77	1996-09-20

tbl_order

CustomerID	CustomerName	ContactName	Country
1	Alfreds Futterkiste	Maria Anders	Germany
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Mexico
3	Antonio Moreno Taquería	Antonio Moreno	Mexico

tbl_customer

```
mysql> USE lab14;
Database changed
mysql> CREATE TABLE tbl_customer (
->   CustomerID INT PRIMARY KEY,
->   CustomerName VARCHAR(50),
->   Country VARCHAR(50)
-> );
Query OK, 0 rows affected (0.06 sec)

mysql> CREATE TABLE tbl_order (
->   OrderID INT PRIMARY KEY,
->   CustomerID INT,
->   OrderDate DATE,
->   FOREIGN KEY (CustomerID) REFERENCES tbl_customer(CustomerID)
-> );
Query OK, 0 rows affected (0.07 sec)

mysql> INSERT INTO tbl_customer (CustomerID, CustomerName, ContactName, Country)
-> VALUES
->   (1, 'Alfreds Futterkiste', 'Maria Anders', 'Germany'),
->   (2, 'Ana Trujillo Emparedados y helados', 'Ana Trujillo', 'Mexico'),
->   (3, 'Antonio Moreno Taquería', 'Antonio Moreno', 'Mexico');
ERROR 1054 (42S22): Unknown column 'ContactName' in 'field list'
mysql> INSERT INTO tbl_customer (CustomerID, CustomerName, Country)
-> VALUES
->   (1, 'Alfreds Futterkiste', 'Germany'),
->   (2, 'Ana Trujillo Emparedados y helados', 'Mexico'),
->   (3, 'Antonio Moreno Taquería', 'Mexico');
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> INSERT INTO tbl_order (OrderID, CustomerID, OrderDate)
-> VALUES
->   (10308, 2, '1996-09-18'),
->   (10309, 37, '1996-09-19'),
->   (10310, 77, '1996-09-20');
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails ('lab14`.`tbl_order`, CONSTRAINT `tbl_order_ibfk_1` FOREIGN
mysql> INSERT INTO tbl_order (OrderID, CustomerID, OrderDate)
-> VALUES
->   (10308, 2, '1996-09-18'),
->   (10309, 1, '1996-09-19'),
->   (10310, 3, '1996-09-20');
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM tbl_customer;
+-----+-----+-----+
| CustomerID | CustomerName | Country |
+-----+-----+-----+
| 1 | Alfreds Futterkiste | Germany |
| 2 | Ana Trujillo Emparedados y helados | Mexico |
| 3 | Antonio Moreno Taquería | Mexico |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT * FROM tbl_order;
+-----+-----+-----+
| OrderID | CustomerID | OrderDate |
+-----+-----+-----+
| 10308 | 2 | 1996-09-18 |
| 10309 | 1 | 1996-09-19 |
| 10310 | 3 | 1996-09-20 |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

```

mysql> ALTER TABLE tbl_customer
-> ADD COLUMN ContactName VARCHAR(100);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> UPDATE tbl_customer
-> SET ContactName = 'Maria Anders'
-> WHERE CustomerID = 1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql>
mysql> UPDATE tbl_customer
-> SET ContactName = 'Ana Trujillo'
-> WHERE CustomerID = 2;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql>
mysql> UPDATE tbl_customer
-> SET ContactName = 'Antonio Moreno'
-> WHERE CustomerID = 3;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM tbl_customer;
+-----+-----+-----+-----+
| CustomerID | CustomerName | Country | ContactName |
+-----+-----+-----+-----+
| 1 | Alfreds Futterkiste | Germany | Maria Anders |
| 2 | Ana Trujillo Emparedados y helados | Mexico | Ana Trujillo |
| 3 | Antonio Moreno Taqueria | Mexico | Antonio Moreno |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> ALTER TABLE tbl_customer
-> DROP COLUMN ContactName;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE tbl_customer
-> ADD COLUMN ContactName VARCHAR(100) AFTER CustomerName;
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> UPDATE tbl_customer
-> SET ContactName = 'Maria Anders'
-> WHERE CustomerID = 1;
Query OK, 1 row affected (0.02 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql>
mysql> UPDATE tbl_customer
-> SET ContactName = 'Ana Trujillo'
-> WHERE CustomerID = 2;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql>
mysql> UPDATE tbl_customer
-> SET ContactName = 'Antonio Moreno'
-> WHERE CustomerID = 3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM tbl_customer;
+-----+-----+-----+-----+
| CustomerID | CustomerName | ContactName | Country |
+-----+-----+-----+-----+
| 1 | Alfreds Futterkiste | Maria Anders | Germany |
| 2 | Ana Trujillo Emparedados y helados | Ana Trujillo | Mexico |
| 3 | Antonio Moreno Taqueria | Antonio Moreno | Mexico |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

ตัวอย่างผลลัพธ์ที่ต้องการ

Output:

OrderID	CustomerID	OrderDate
10308	2	1996-09-18
10309	37	1996-09-19
10310	77	1996-09-20

CustomerID	CustomerName	ContactName	Country
1	Akfreds Fyttkerkiste	Maria Anders	Germany
2	Ana Trujilo	Han Kimjoun	Thailand
3	Kim Haerong	Cha Ounwoo	Thailand

• HINTS

- Create table
- Insert into
- Select
- Capture คำสั่งที่ใช้ในการสร้าง เพิ่มข้อมูล และแสดงข้อมูลในแต่ละตารางลงใน Lab result

```

babyarn@babyarn:~/Desktop$ cd
babyarn@babyarn:~$ sudo mysql -u root -p
[sudo] password for babyarn:
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.39-0ubuntu0.24.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE LAB14;
Query OK, 1 row affected (0.01 sec)

mysql> USE LAB14;
Database changed
mysql> CREATE TABLE tbl_customer (
  ->   CustomerID INT PRIMARY KEY,
  ->   CustomerName VARCHAR(100),
  ->   ContactName VARCHAR(100),
  ->   Country VARCHAR(50)
  -> );
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE tbl_order (
  ->   OrderID INT PRIMARY KEY,
  ->   CustomerID INT,
  ->   OrderDate DATE,
  ->   FOREIGN KEY (CustomerID) REFERENCES tbl_customer(CustomerID)
  -> );
Query OK, 0 rows affected (0.04 sec)

```

```
mysql> INSERT INTO tbl_customer (CustomerID, CustomerName, ContactName, Country)
-> VALUES
-> (1, 'Akfreds Fyttkerkiste', 'Maria Anders', 'Germany'),
-> (2, 'Ana Trujilo', 'Han Kimjoung', 'Thailand'),
-> (3, 'Kim Haerong', 'Cha Ounwoo', 'Thailand');
Query OK, 3 rows affected (0.00 sec)
Records: 3 Duplicates: 0 Warnings: 0
```

```
mysql> SET FOREIGN_KEY_CHECKS = 0;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql>
mysql> INSERT INTO tbl_order (OrderID, CustomerID, OrderDate)
-> VALUES
-> (10308, 2, '1996-09-18'),
-> (10309, 37, '1996-09-19'),
-> (10310, 77, '1996-09-20');
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0
```

```
mysql> SET FOREIGN_KEY_CHECKS = 1;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> SELECT * FROM tbl_customer;
+-----+-----+-----+-----+
| CustomerID | CustomerName | ContactName | Country |
+-----+-----+-----+-----+
| 1 | Akfreds Fyttkerkiste | Maria Anders | Germany |
| 2 | Ana Trujilo | Han Kimjoung | Thailand |
| 3 | Kim Haerong | Cha Ounwoo | Thailand |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM tbl_order;
+-----+-----+-----+
| OrderID | CustomerID | OrderDate |
+-----+-----+-----+
| 10308 | 2 | 1996-09-18 |
| 10309 | 37 | 1996-09-19 |
| 10310 | 77 | 1996-09-20 |
+-----+-----+-----+
3 rows in set (0.01 sec)
```

SQL GROUP BY

ผลลัพธ์ที่ต้องการ

+	-----+	-----+	+
	COUNT(CustomerID)		Country
+	-----+	-----+	+
		1	Germany
		2	Thailand
+	-----+	-----+	+

HINTS

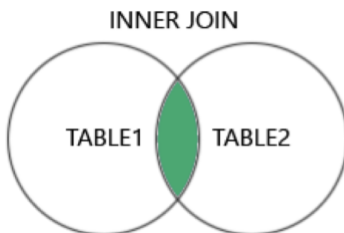
- นับจำนวน CustomerID ที่มี Country ค่าเดียวกัน
- COUNT
- GROUP BY

```
mysql> SELECT COUNT(CustomerID) AS 'COUNT(CustomerID)', Country
-> FROM tbl_customer
-> GROUP BY Country;
+-----+-----+-----+
| COUNT(CustomerID) | Country |
+-----+-----+-----+
|                  1 | Germany |
|                  2 | Thailand |
+-----+-----+-----+
2 rows in set (0.00 sec)
```

Joining Tables

ผลลัพธ์ที่ต้องการ

+	-----+	-----+	-----+	-----+	+
	OrderID		OrderDate		CustomerName
					ContactName
					Country
+	-----+	-----+	-----+	-----+	+
	10308		1996-09-18		Ana Trujilo
					Han Kimjoun
					Thailand
+	-----+	-----+	-----+	-----+	+

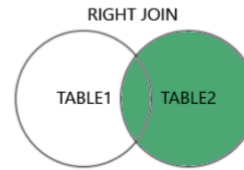
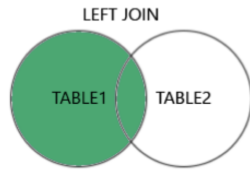


HINTS

- เรคคอร์ดที่ถูกเลือกจะมีค่า “เหมือนกัน” ในทั้งสองตาราง
- จากผลลัพธ์คอลัมน์ใดในตารางทั้งสองมีค่าเท่ากัน ?

```
mysql> SELECT tbl_order.OrderID, tbl_order.OrderDate, tbl_customer.CustomerName, tbl_customer.ContactName, tbl_customer.Country
-> FROM tbl_order
-> INNER JOIN tbl_customer ON tbl_order.CustomerID = tbl_customer.CustomerID
-> WHERE tbl_order.CustomerID = 2;
+-----+-----+-----+-----+-----+
| OrderID | OrderDate | CustomerName | ContactName | Country |
+-----+-----+-----+-----+-----+
| 10308   | 1996-09-18 | Ana Trujilo   | Han Kimjoun | Thailand |
+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

ทดลอง LEFT JOIN และ RIGHT JOIN



OrderID	OrderDate	CustomerName	ContactName	Country
10308	1996-09-18	Ana Trujilo	Han Kimjoun	Thailand
10309	1996-09-19	NULL	NULL	NULL
10310	1996-09-20	NULL	NULL	NULL

OrderID	OrderDate	CustomerName	ContactName	Country
NULL	NULL	Akfreds Fyttkerkiste	Maria Anders	Germany
10308	1996-09-18	Ana Trujilo	Han Kimjoun	Thailand
NULL	NULL	Kim Haerong	Cha Ounwoo	Thailand

```
mysql> SELECT tbl_order.OrderID, tbl_order.OrderDate, tbl_customer.CustomerName, tbl_customer.ContactName, tbl_customer.Country
-> FROM tbl_order
-> LEFT JOIN tbl_customer ON tbl_order.CustomerID = tbl_customer.CustomerID;
+-----+-----+-----+-----+-----+
| OrderID | OrderDate | CustomerName | ContactName | Country |
+-----+-----+-----+-----+-----+
| 10308 | 1996-09-18 | Ana Trujilo | Han Kimjoun | Thailand |
| 10309 | 1996-09-19 | NULL | NULL | NULL |
| 10310 | 1996-09-20 | NULL | NULL | NULL |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> SELECT tbl_order.OrderID, tbl_order.OrderDate, tbl_customer.CustomerName, tbl_customer.ContactName, tbl_customer.Country
-> FROM tbl_order
-> RIGHT JOIN tbl_customer ON tbl_order.CustomerID = tbl_customer.CustomerID;
+-----+-----+-----+-----+-----+
| OrderID | OrderDate | CustomerName | ContactName | Country |
+-----+-----+-----+-----+-----+
| NULL | NULL | Akfreds Fyttkerkiste | Maria Anders | Germany |
| 10308 | 1996-09-18 | Ana Trujilo | Han Kimjoun | Thailand |
| NULL | NULL | Kim Haerong | Cha Ounwoo | Thailand |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```