

Step 1: Gain Root Privileges

```
sudo su
```

Step 2: Start Docker Container

```
docker start 0a
```

Step 3: Access Docker Container

```
docker exec -it 0a bash
```

Step 4: Login to MySQL

```
mysql -u root -p
```

Step 5: Backup Existing Database

```
mysqldump -u root -p testing > /home/backup.sql
```

Step 6: Create the `kaushal` Database and Tables

Once inside MySQL:

```
-- Create the database
CREATE DATABASE kaushal;
USE kaushal;

-- Create the `employees` table
CREATE TABLE employees (
    empid INT AUTO_INCREMENT PRIMARY KEY,
    empname VARCHAR(100),
    dept_name VARCHAR(100)
);

-- Create the `department` table
CREATE TABLE department (
    dept_id INT AUTO_INCREMENT PRIMARY KEY,
    dept_name VARCHAR(100) UNIQUE
);

-- Add foreign key to `employees` referencing `department`
ALTER TABLE employees
ADD CONSTRAINT fk_dept
FOREIGN KEY (dept_name)
REFERENCES department(dept_name);
```

Step 7: Insert Data into Tables

```
-- Insert data into the `department` table
```

```
INSERT INTO department (dept_name) VALUES
('HR'),
('Finance'),
('IT'),
('Marketing'),
('Sales');

-- Insert data into the `employees` table
INSERT INTO employees (empname, dept_name) VALUES
('Alice', 'HR'),
('Bob', 'Finance'),
('Charlie', 'IT'),
('Diana', 'HR'),
('Evan', 'Sales'),
('Fiona', 'Marketing'),
('George', 'Finance'),
('Hannah', 'Sales'),
('Irene', 'Marketing'),
('Jack', 'IT');
```

Step 8: Perform Joins

1. LEFT JOIN: Fetch all employees and their department details (even if no department is assigned).

```
SELECT employees.empid, employees.empname, employees.dept_name,
department.dept_id
FROM employees
LEFT JOIN department ON employees.dept_name = department.dept_name;
```

2. RIGHT JOIN: Fetch all departments and their employees (even if no employee is assigned).

```
SELECT employees.empid, employees.empname, employees.dept_name,
department.dept_id
FROM employees
RIGHT JOIN department ON employees.dept_name = department.dept_name;
```
