Documentation of the Process: Backup and Recovery of MySQL Database

This document provides a detailed explanation of the steps involved in backing up and restoring a MySQL database (`CompanyDB`) using MySQL Workbench. It includes database creation, data insertion, backup, restoration, and verification processes.

1. Initial Setup

1.1 Create the Database

Use the following SQL command to create a database named `CompanyDB`:

```
CREATE DATABASE CompanyDB;
USE CompanyDB;
```

1.2 Create the Table

Create a table named `Employees`:

```
CREATE TABLE Employees (
    EmployeeID INT AUTO_INCREMENT PRIMARY KEY,
    Name VARCHAR(100),
    Position VARCHAR(100),
    Salary DECIMAL(10, 2)
);
```

1.3 Insert Data

Populate the table with 10 sample records:

```
INSERT INTO Employees (Name, Position, Salary)
VALUES
```

('Amit', 'Manager', 75000.00),

('Raj', 'Developer', 60000.00),

('Priya', 'Analyst', 55000.00),

('Vikram', 'Tester', 50000.00),

('Neha', 'Designer', 65000.00),

('Arjun', 'Product Manager', 80000.00),

('Kavita', 'HR Specialist', 55000.00),

('Ravi', 'Support Engineer', 45000.00),

('Meera', 'Sales Executive', 70000.00),

('Sanjay', 'Marketing Specialist', 60000.00);

1.4 Verify the Data

Confirm that the data has been inserted successfully:

SELECT * FROM Employees;

2. Backup Process

2.1 Open MySQL Workbench

Launch MySQL Workbench and connect to your database server.

2.2 Navigate to Export Tools

Go to "Server" > "Data Export".

2.3 Select the Database and Tables

Choose `CompanyDB` from the list of schemas. Select the `Employees` table (or all tables).

2.4 Export Configuration

Select "Export to Self-Contained File". Specify a file name (e.g., `CompanyDB_Backup.sql`) and

location.

2.5 Start Export

Click "Start Export" to generate the backup file.

3. Failure Simulation

To simulate a failure, delete the database using the following SQL command:

DROP DATABASE CompanyDB;

4. Recovery Process

4.1 Open MySQL Workbench

Connect to your database server.

4.2 Navigate to Import Tools

Go to "Server" > "Data Import".

4.3 Import Configuration

Select "Import from Self-Contained File". Choose the backup file `CompanyDB_Backup.sql`.

4.4 Restore Settings

Select "Dump Structure and Data". Choose the target schema (or create a new one).

4.5 Start Import

Click "Start Import" to restore the database.

5. Verification

5.1 Check the Restored Data

Verify that the data has been restored successfully:

```
USE CompanyDB;

SELECT * FROM Employees;
```

5.2 Expected Output

The restored table should match the original dataset:

EmployeeID	Name	Position	Salary
1	Amit	Manager	75000.00
2	Raj	Developer	60000.00
3	Priya	Analyst	55000.00
4	Vikram	Tester	50000.00
5	Neha	Designer	65000.00
6	Arjun	Product Manager	80000.00
7	Kavita	HR Specialist	55000.00
8	Ravi	Support Engineer	45000.00
9	Meera	Sales Executive	70000.00
10	Sanjay	Marketing Specialist	60000.00

6. Conclusion

This process demonstrates a complete workflow for database backup and recovery using MySQL Workbench. The restored database matches the original, ensuring that the data is preserved and recoverable in case of failure.