MySQL Commands Reference

MySQL Client

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

User: `root@localhost`
Password: `*********`

Database Operations

```
SHOW DATABASES;
CREATE DATABASE dbname;
USE dbname;
DROP DATABASE dbname;
```

Table Operations

```
CREATE TABLE employees (
    employee_id INT AUTO_INCREMENT PRIMARY KEY,
    first_name VARCHAR(255) NOT NULL,
    last_name VARCHAR(255) NOT NULL,
    DOB DATE
);

DROP TABLE employees;
```

User Management

```
CREATE USER 'rutul.2151599'@'localhost' IDENTIFIED BY 'panenka';
CREATE USER 'rutul'@'localhost' IDENTIFIED BY 'panenka';
ALTER USER 'rutul'@'localhost' IDENTIFIED BY 'panenka234';
SELECT user, host FROM mysql.user;
DROP USER 'rutul'@'localhost';
```

Login with different user:

```
mysql -u rutul.2151599 -p
```

Permissions

```
GRANT ALL PRIVILEGES ON employee.* TO 'rutul'@'localhost';
GRANT SELECT, INSERT, DELETE PRIVILEGES ON employee.* TO 'rutul'@'localhost';
REVOKE ALL PRIVILEGES ON *.* FROM 'rutul'@'localhost';
SHOW GRANTS FOR 'rutul'@'%';
```

Querying Data

```
SELECT * FROM employee;
SELECT * FROM employee LIMIT 20;
SELECT emp_no, gender, first_name, last_name FROM employee LIMIT 20;
SELECT * FROM employee WHERE last_name = 'Bamford';
SELECT * FROM employee ORDER BY hire_date LIMIT 10;
SELECT * FROM employee WHERE birth_date LIKE '%1952%' LIMIT 10;
```

Data Manipulation

Insert Data

```
INSERT INTO department (dept_no, dept_name) VALUES ('d010', 'Technology');
```

Update Data

```
UPDATE department SET dept_name = 'Helpdesk' WHERE dept_no = 'd010';
```

Delete Data

```
DELETE FROM department WHERE dept_no = 'd010';
```

Table Modification

Adding a Column

```
ALTER TABLE employee ADD COLUMN dept_no CHAR(4);
```

Adding a Foreign Key

```
ALTER TABLE employee
    ADD CONSTRAINT fk_dept_no
    FOREIGN KEY (dept_no)
    REFERENCES department(dept_no);
```

Joins

Inner Join

```
SELECT * FROM employee
INNER JOIN department ON employee.dept_no = department.dept_no;
```

Left Join

```
SELECT emp_no, first_name, last_name, dept_name FROM employee
LEFT JOIN department ON employee.dept_no = department.dept_no;
```

Views

Creating a View

```sql
CREATE VIEW employee_gender AS
SELECT first_name, last_name, gender
FROM employee;
```

Dropping a View

```sql
DROP VIEW employee_gender;
```

Indexes

Show Indexes

```sql
SHOW INDEXES FROM employee;
```

Create an Index

```sql
CREATE INDEX idx_last_name ON employee(last_name);
```

Drop an Index

```sql
ALTER TABLE employee DROP INDEX idx_last_name;
```

Subqueries

```sql
SELECT * FROM employee WHERE dept_no = (
    SELECT dept_no FROM department WHERE dept_name = 'Sales'
);
```

Stored Procedures

Creating a Stored Procedure

```
delimiter //
CREATE PROCEDURE employee_count_dept()
BEGIN
    SELECT department.dept_no, department.dept_name, COUNT(employee.emp_no) AS num_empl
    FROM department
    LEFT JOIN employee ON department.dept_no = employee.dept_no
    GROUP BY department.dept_no, department.dept_name;
END //
delimiter ;
```

Calling and Dropping a Procedure

```
CALL employee_count_dept();
DROP PROCEDURE employee_count_dept;
```

Triggers

Creating an Audit Table

```
CREATE TABLE employee_audit (
    audit_id INT AUTO_INCREMENT PRIMARY KEY,
    dept_no CHAR(4),
    action VARCHAR(50),
    action_date TIMESTAMP
);
```

Creating a Trigger

```
delimiter //
CREATE TRIGGER employee_audit_trigger
AFTER UPDATE ON employee
FOR EACH ROW
BEGIN
    INSERT INTO employee_audit(dept_no, action, action_date)
    VALUES (NEW.dept_no, 'UPDATE', NOW());
END //
delimiter ;
```

Show Triggers

```
SHOW TRIGGERS;
SELECT * FROM employee_audit;
```

Process List

```
SHOW PROCESSLIST;
```

MySQL Dumps (Backup & Restore)

Backup

```
mysqldump -u rutul.2151599 -p employee > emp_backup.sql
```

Restore

```
mysql -u rutul.2151599 -p employee < emp_backup.sql
```