

# Session 11

Use **show Databases;** to see all the databases created.

**SELECT TABLE\_NAME FROM INFORMATION\_SCHEMA.TABLES;** to see all the tables in every databases.

```
mysql> SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES;
ERROR 4031 (HY000): The client was disconnected by the server because of inactivity. See wait_timeout and interactive_timeout for configuring this behavior.
No connection. Trying to reconnect...
Connection id: 16
Current database: temp1

+-----+
| TABLE_NAME |
+-----+
| innodb_table_stats |
| innodb_index_stats |
| CHARACTER_SETS |
| CHECK_CONSTRAINTS |
| COLLATIONS |
| COLLATION_CHARACTER_SET_APPLICABILITY |
| COLUMNS |
| COLUMNS_EXTENSIONS |
| COLUMN_STATISTICS |
| EVENTS |
| FILES |
| INNODB_DATAFILES |
| INNODB_FOREIGN |
| INNODB_FOREIGN_COLS |
| INNODB_FIELDS |
| INNODB_TABLESPACES_BRIEF |
| KEY_COLUMN_USAGE |
| KEYWORDS |
+-----+
```

**SELECT TABLE\_NAME FROM INFORMATION\_SCHEMA.TABLES WHERE TABLE\_TYPE = 'BASE TABLE';**

```
mysql> SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE';
```

TABLE_NAME
innodb_table_stats
innodb_index_stats
cond_instances
error_log
events_waits_current
events_waits_history
events_waits_history_long
events_waits_summary_by_host_by_event_name
events_waits_summary_by_instance
events_waits_summary_by_thread_by_event_name
events_waits_summary_by_user_by_event_name
events_waits_summary_by_account_by_event_name
events_waits_summary_global_by_event_name
file_instances
file_summary_by_event_name
file_summary_by_instance
host_cache
mutex_instances
objects_summary_global_by_type
performance_timers
processlist
rwlock_instances
setup_actors

**SELECT TABLE\_NAME FROM INFORMATION\_SCHEMA.TABLES 1 WHERE TABLE\_SCHEMA = 'Demo';**

```
mysql> SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_SCHEMA = 'Demo';
```

```
emp1';
+-----+
| TABLE_NAME |
+-----+
| EmpData     |
+-----+
1 row in set (0.01 sec)
```

**INSERT into EmpData (Emp\_id, Fname, City, Gender) values(7,'Raj','Delhi','Male');**

```
mysql> INSERT INTO EmpData(Emp_id,Fname,City,Gender) VALUES(17,'Raj','Delhi','Male');
```

```
Query OK, 1 row affected (0.01 sec)
```

**SELECT DISTINCT \* FROM EmpData;** *to erase duplicity from table meaning every data in column will be different.*

```
mysql> SELECT DISTINCT * FROM EmpData;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
1	nayan	gadhari	mumbai	420	25000	nayan_gadha
2	barry	allen	mumbai	783	67000	barry_allen
3	Natasha	Romanof	St. Petersburg	783	100000	natasha_rom
4	Hope	Wasp	New Jersy	783	10000	hope_wasp@g
5	Bruse	Banner	Kolkata	536	76900	bruse_banne
6	Steve	Roggers	Brooklyn	987	7697800	setee_rogge
9	Tony	Stark	New York	225	169290	tony_stark@

```
7 rows in set (0.01 sec)
```

**SELECT COUNT(DISTINCT City) FROM EmpData;**

```
mysql> SELECT COUNT(DISTINCT Cnumber) FROM EmpData;
```

COUNT(DISTINCT Cnumber)
5

```
1 row in set (0.00 sec)
```

**mysql> SELECT COUNT(Cnumber) FROM EmpData;**

```
mysql> SELECT COUNT(Cnumber) FROM EmpData;
```

COUNT(Cnumber)
7

```
1 row in set (0.01 sec)
```

**SELECT \* FROM EmpData WHERE NOT City = ' Mumbai';**



```
mysql> SELECT * FROM EmpData WHERE NOT City = 'Mumbai';
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
3	Natasha	Romanof	St. Petersburg	783	100000	natasha_romanof@gmail.com
4	Hope	Wasp	New Jersey	783	10000	hope_wasp@gmail.com
5	Bruse	Banner	Kolkata	536	76900	bruse_banner@gmail.com
6	Steve	Roggers	Brooklyn	987	7697800	setee_roggers@gmail.com
9	Tony	Stark	New York	225	169290	tony_stark@gmail.com

5 rows in set (0.00 sec)

**SELECT \* FROM EmpData WHERE Salary > 0 and NOT City = 'Mumbai' ORDER BY Name DESC;**

```
mysql> SELECT * FROM EmpData WHERE NOT City = 'Mumbai' ORDER BY Fname DESC;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
9	Tony	Stark	New York	225	169290	tony_stark@gmail.com
6	Steve	Roggers	Brooklyn	987	7697800	setee_roggers@gmail.com
3	Natasha	Romanof	St. Petersburg	783	100000	natasha_romanof@gmail.com
4	Hope	Wasp	New Jersey	783	10000	hope_wasp@gmail.com
5	Bruse	Banner	Kolkata	536	76900	bruse_banner@gmail.com

5 rows in set (0.00 sec)

**SELECT \* FROM EmpData ORDER BY Salary DESC LIMIT 4;**

```
mysql> SELECT * FROM EmpData ORDER BY Salary DESC LIMIT 4;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
6	Steve	Roggers	Brooklyn	987	7697800	setee_roggers@gmail.com
9	Tony	Stark	New York	225	169290	tony_stark@gmail.com
3	Natasha	Romanof	St. Petersburg	783	100000	natasha_romanof@gmail.com
5	Bruse	Banner	Kolkata	536	76900	bruse_banner@gmail.com

4 rows in set (0.00 sec)

**SELECT \* FROM EmpData ORDER BY Salary DESC LIMIT 3,1;** *it eliminate first 3 rows and print next 1 rows.*

```
mysql> SELECT * FROM EmpData ORDER BY Salary DESC LIMIT 3,1;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
5	Bruse	Banner	Kolkata	536	76900	bruse_banner@gmail.com

1 row in set (0.00 sec)

**SELECT \* FROM EmpData where Salary IS NULL;**

```
mysql> SELECT * FROM EmpData WHERE Salary IS NULL;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email	Gender	Dep
17	Raj	NULL	Delhi	NULL	NULL	NULL	Male	NULL
17	Raj	NULL	Delhi	NULL	NULL	NULL	Male	NULL

2 rows in set (0.00 sec)

**DELETE FROM EmpData WHERE Salary is NULL;**

```
mysql> DELETE FROM EmpData WHERE Salary is NULL;
Query OK, 2 rows affected (0.01 sec)

mysql> SELECT * FROM EmpData WHERE Salary is NULL;
Empty set (0.00 sec)
```

**SELECT \* FROM EmpData WHERE Fname LIKE 'A%a%P';** *looks for the data who's name starts from a or ends from p or a between A and P in Fname.*



```
mysql> SELECT * FROM EmpData WHERE Fname LIKE 'B%r%E';
+-----+-----+-----+-----+-----+-----+-----+
| Emp_id | Fname | Lname | city | Cnumber | Salary | email |
| Gender | Dep |
+-----+-----+-----+-----+-----+-----+-----+
| 5 | Bruse | Banner | Kolkata | 536 | 76900 | bruse_banner@gmail.com |
| M | BOD |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

**SELECT \* FROM EmpData WHERE Fname LIKE '\_a%';** will display who's name has a in third place. **SELECT \* FROM EmpData WHERE Fname LIKE 'a\_\_b%';** will display who's Fname starts with a and has 3rd place from a is b.

```
mysql> SELECT * FROM EmpData WHERE Fname LIKE 'S___E%';
+-----+-----+-----+-----+-----+-----+-----+
| Emp_id | Fname | Lname | city | Cnumber | Salary | email |
| Gender | Dep |
+-----+-----+-----+-----+-----+-----+-----+
| 6 | Steve | Rogers | Brooklyn | 987 | 7697800 | setee_rogers@gmail.com |
| M | Accounts |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

**SELECT \* FROM EmpData WHERE City IN ('Mumbai', 'New York');**

```
mysql> SELECT * FROM EmpData WHERE City in ('Mumbai','New York');
+-----+-----+-----+-----+-----+-----+-----+
| Emp_id | Fname | Lname | city | Cnumber | Salary | email |
| Gender | Dep |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | nayan | gadhari | mumbai | 420 | 25000 | nayan_gadhari@thbs.com |
| male | IT |
| 2 | barry | allen | mumbai | 783 | 67000 | barry_allen@gmail.com |
| M | Opreation |
| 9 | Tony | Stark | New York | 225 | 169290 | tony_stark@gmail.com |
| M | Finance |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

**SELECT \* FROM EmpData WHERE Salary NOT BETWEEN 25000 and 27000;**

```
mysql> SELECT * FROM EmpData WHERE Salary NOT BETWEEN 25000 and 30000;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
2	barry	allen	mumbai	783	67000	barry_allen@gmail.com
3	Natasha	Romanof	St. Petersburg	783	100000	natasha_romanof@gmail.com
4	Hope	Wasp	New Jersey	783	10000	hope_wasp@gmail.com
5	Bruse	Banner	Kolkata	536	76900	bruse_banner@gmail.com
6	Steve	Roggers	Brooklyn	987	7697800	setee_rogers@gmail.com
9	Tony	Stark	New York	225	169290	tony_stark@gmail.com

6 rows in set (0.00 sec)

**SELECT \* FROM EmpData WHERE Fname LIKE '%b%y%' and Salary NOT BETWEEN 25000 and 3000;**

```
mysql> SELECT * FROM EmpData WHERE Fname LIKE '%b%y%' and Salary NOT BETWEEN 25000 and 3000;
```

Emp_id	Fname	Lname	city	Cnumber	Salary	email
2	barry	allen	mumbai	783	67000	barry_allen@gmail.com

1 row in set (0.00 sec)

**SELECT COUNT(\*) AS NUMBERS FROM EmpData GROUP BY City;** *to count the number of cities which are same.*

```
mysql> SELECT COUNT(*) AS COUNT, City FROM EmpData GROUP BY City;
```

COUNT	City
2	mumbai
1	St. Petersburg
1	New Jersey
1	Kolkata
1	Brooklyn
1	New York

6 rows in set (0.01 sec)

**SELECT SUM(Salary), Gender FROM EmpData GROUP BY Gender;** *to see the total salary of male and female and see how many males and females are there in the table.*

```
mysql> SELECT SUM(Salary), COUNT(*) AS COUNTS, Gender FROM EmpData GROUP BY Gender;
```

SUM(Salary)	COUNTS	Gender
8035990	5	M
110000	2	F

```
2 rows in set (0.00 sec)
```

**SELECT AVG(Salary), COUNT(\*), City FROM EmpData GROUP BY City HAVING AVG(Salary)>=25000;**  
*shows the average salary according to city who have average salary greater than 25000.*

```
mysql> SELECT City, AVG(Salary),COUNT(*) FROM EmpData GROUP BY City HAVING AVG(Salary)>25000;
```

City	AVG(Salary)	COUNT(*)
mumbai	46000.0000	2
New Jersey	10000.0000	1

```
2 rows in set (0.00 sec)
```

**SELECT \* FROM EmpData WHERE LIKE 'I%%';** meaning if we have a data in a table which as % we can use 'I' (escape sequence) so *after escape sequence any symbol will be consider as character not a keyword.*

**CREATE TABLE emp ( id int UNIQUE, fname varchar(100), lname varchar(100), age int NOT NULL); INSERT into emp**

```
mysql> CREATE TABLE emp (id int NOT NULL UNIQUE, fname varchar(100), lname varchar(100), age int NOT NULL, gender varchar(20));
Query OK, 0 rows affected (0.13 sec)
```

**ALTER TABLE EmpData MODIFY Emp\_id int NOT NULL;** *to change the properties of table like from int to varchar or saying this column can't be NULL.*

```
mysql> ALTER TABLE emp MODIFY id varchar(100) NOT NULL;
Query OK, 8 rows affected (0.17 sec)
Records: 8 Duplicates: 0 Warnings: 0
```

**SHOW CREATE TABLE emp ;** *to see if there are any constraints to a table.*



```

+-----+
| Table | Create Table
+-----+
|
+-----+
+-----+
+-----+
+-----+
+-----+
| emp   | CREATE TABLE `emp` (
| `id`  | int NOT NULL,
| `fname` | varchar(100) DEFAULT NULL,
| `lname` | varchar(100) DEFAULT NULL,
| `age`  | int NOT NULL,
| `gender` | varchar(20) DEFAULT NULL,
| `email` | varchar(100) DEFAULT 'zzzz@marvel.com',
| UNIQUE KEY `id` (`id`),
| UNIQUE KEY `id_2` (`id`)
| ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+
+-----+
+-----+
+-----+
+-----+
1 row in set (0.00 sec)

```

**ALTER TABLE tablename ADD column datatype DEFAULT 'zzz@marvel.com';** you can set a default value using this command.

```

mysql> ALTER TABLE emp ADD email varchar(100) DEFAULT 'zzzz@marvel.com';
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0

```

```

mysql> SELECT * FROM emp;

```

```

+-----+
| id | fname | lname | age | gender | email |
+-----+
| -1 | ancient | one | 3500 | F | zzzz@marvel.com |
| 0 | natasha | romanof | 30 | F | zzzz@marvel.com |
| 1 | nayan | gadhari | 22 | M | zzzz@marvel.com |
| 8 | wanda | witch | 29 | F | zzzz@marvel.com |
| 23 | hope | wasp | 28 | F | zzzz@marvel.com |
| 38 | peter | parker | 18 | M | zzzz@marvel.com |
| 89 | bruse | banner | 24 | M | zzzz@marvel.com |
| 283 | tony | stark | 35 | M | zzzz@marvel.com |
+-----+
8 rows in set (0.00 sec)

```

**ALTER TABLE tablename ADD CHECK(column>=18);** check command validates the condition, in our case if any data in age column is less than 18 then we will get error while using this command or inserting data with age less than 18.

```
mysql> ALTER TABLE emp ADD CHECK(age>=8);  
Query OK, 12 rows affected (0.13 sec)  
Records: 12  Duplicates: 0  Warnings: 0  
  
mysql> INSERT into emp(id,fname,lname,age,gender) values(988,'steve','rogers',6  
, 'M');  
ERROR 3819 (HY000): Check constraint 'emp_chk_1' is violated.
```