

# SESSION-3

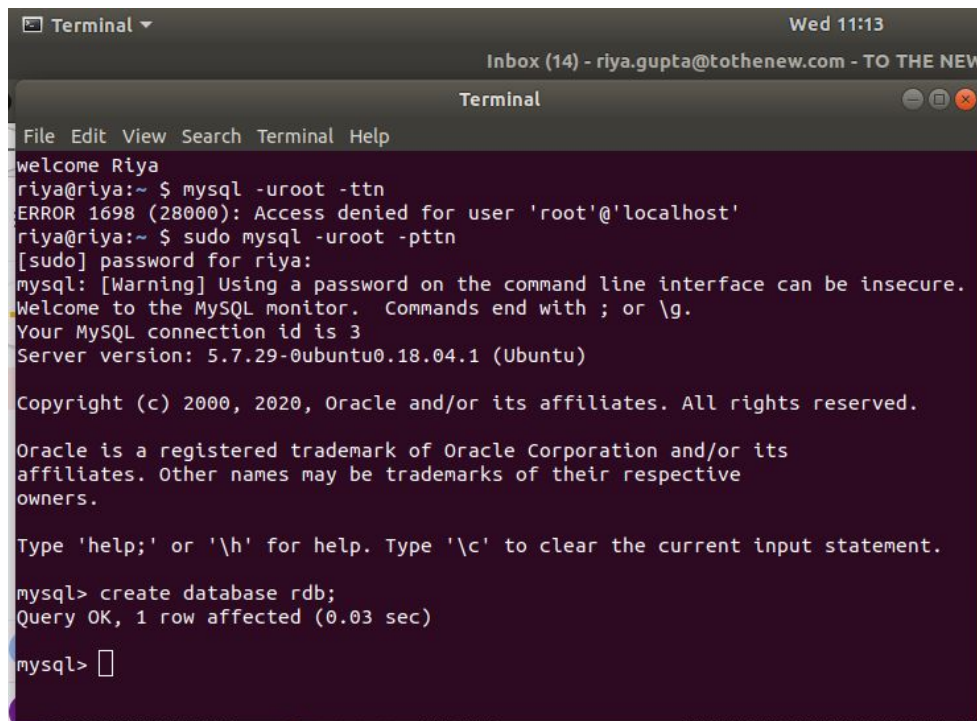
## INTRODUCTION TO DATABASES

Questions not done : 9

### 1.Create Database

```
mysql> create database rdb;
```

Query OK, 1 row affected (0.03 sec)

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Wed 11:13, Inbox (14) - riya.gupta@tothenew.com - TO THE NEW). The terminal shows a user named Riya at a prompt. They attempt to run 'mysql -uroot -ttn', which results in an 'ERROR 1698 (28000): Access denied for user 'root'@'localhost''. They then run 'sudo mysql -uroot -pttn', providing a password. The terminal displays a warning about using passwords on the command line, followed by a welcome message to the MySQL monitor, connection ID 3, and server version 5.7.29-0ubuntu0.18.04.1 (Ubuntu). It also shows copyright information and instructions on how to use help and clear the input. Finally, the user runs 'mysql> create database rdb;', which is successful, showing 'Query OK, 1 row affected (0.03 sec)'. The prompt 'mysql>' is shown at the bottom with a cursor.

```
welcome Riya
riya@riya:~ $ mysql -uroot -ttn
ERROR 1698 (28000): Access denied for user 'root'@'localhost'
riya@riya:~ $ sudo mysql -uroot -pttn
[sudo] password for riya:
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 3
Server version: 5.7.29-0ubuntu0.18.04.1 (Ubuntu)

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owners.

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

mysql> create database rdb;
Query OK, 1 row affected (0.03 sec)

mysql> 
```

```
Terminal
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mysql> use rdb;
Database changed
mysql> select database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MySQL server version for the right syntax to use near '' at
line 1
mysql> show database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MySQL server version for the right syntax to use near 'datab
ase' at line 1
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| rdb |
| sys |
+-----+
5 rows in set (0.00 sec)

mysql> 
```

## 2. Create schema

Type desc command, and then put image of all the tables created.

```
mysql> show tables;
```

```
+-----+
| Tables_in_rdb |
+-----+
| customer      |
| orders        |
| product       |
| salesman      |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> desc customer;
```

```
+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| cid   | int(10)       | NO   | PRI | NULL    |       |
| cname | varchar(32)   | YES  | MUL | NULL    |       |
| cemail| varchar(32)   | YES  |     | NULL    |       |
| ccontact| bigint(10)  | YES  |     | NULL    |       |
| enabled| bit(1)       | YES  |     | b'1'    |       |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> desc orders;
```

Field	Type	Null	Key	Default	Extra
oid	int(11)	NO	PRI	NULL	
cust_id	int(11)	YES	MUL	NULL	
sales_id	int(11)	YES	MUL	NULL	

3 rows in set (0.01 sec)

```
mysql> desc product;
```

Field	Type	Null	Key	Default	Extra
pid	int(1)	NO	PRI	NULL	auto_increment
pname	varchar(10)	YES		NULL	

2 rows in set (0.01 sec)

```
mysql> desc salesman;
```

Field	Type	Null	Key	Default	Extra
sid	int(11)	NO	PRI	NULL	
sname	varchar(20)	YES		NULL	
semail	varchar(10)	YES		NULL	

3 rows in set (0.01 sec)

```
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mysql> show tables;
+-----+
| Tables_in_rdb |
+-----+
| customer      |
| orders        |
| product       |
| salesman      |
+-----+
4 rows in set (0.00 sec)

mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| cid   | int(10)   | NO   | PRI | NULL    |       |
| cname | varchar(32) | YES  | MUL | NULL    |       |
| cemail| varchar(32) | YES  |     | NULL    |       |
| ccontact | bigint(10) | YES  |     | NULL    |       |
| enabled | bit(1)    | YES  |     | b'1'    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> desc orders;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| oid   | int(11)   | NO   | PRI | NULL    |       |
| cust_id | int(11)  | YES  | MUL | NULL    |       |
| sales_id | int(11)  | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
```

```
mysql> desc product;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| pid   | int(1)    | NO   | PRI | NULL    | auto_increment |
| pname | varchar(10) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> decs salesman;
ERROR 1064 (42000): You have an error in your SQL syntax; check the
right syntax to use near 'decs salesman' at line 1
mysql> desc salesman;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| sid   | int(11)   | NO   | PRI | NULL    |       |
| sname | varchar(20) | YES  |     | NULL    |       |
| semail | varchar(10) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

### 3.Create table

```
mysql> create table customer(cid int(10), cname varchar(32), cemail varchar(32),ccontact int(10));
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> show tables;
+-----+
| Tables_in_rdb |
+-----+
| customer      |
+-----+
1 row in set (0.00 sec)

mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| cid   | int(10)   | YES  |     | NULL    |       |
| cname | varchar(32) | YES  |     | NULL    |       |
| cemail | varchar(32) | YES  |     | NULL    |       |
| ccontact | int(10) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> 
```

### 4.Insert sample data

```
mysql> insert into customer values(1,'Riya','riya.gupta@tothenew.com',12345);
```

Query OK, 1 row affected (0.01 sec)

```
mysql> insert into customer values(2,'Vaibhav','vaibhav.sharma@tothenew.com',1234567890);
```

```
mysql> select* from customer;
+-----+-----+-----+-----+
| cid | cname | cemail | ccontact |
+-----+-----+-----+-----+
| 1 | Riya | riya.gupta@tothenew.com | 12345 |
| 2 | Vaibhav | vaibhav.sharma@tothenew.com | 1234567890 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> 
```

### 5.Find the sales person having multiple orders.

```
mysql> select * from salesman;
```

```
+-----+-----+-----+
| sale_id | sale_name | sale_email |
+-----+-----+-----+
```

	5001	john	j@abc.com	
	5002	jack	jcc@ac.com	
	5003	kim	k@ac.com	

+-----+-----+-----+

3 rows in set (0.00 sec)

mysql> select \* from customer;

+-----+-----+-----+

	customer_id	cust_name	sale_id	
--	-------------	-----------	---------	--

+-----+-----+-----+

	3002	Riya		5001	
	3005	Tanya		5003	
	3007	Divya		5002	
	3008	Ritika		5001	
	3009	Ritik		5001	

+-----+-----+-----+

5 rows in set (0.00 sec)

mysql> SELECT \* FROM salesman WHERE sale\_id IN (SELECT DISTINCT sale\_id FROM customer a WHERE EXISTS (SELECT \* FROM customer b WHERE b.sale\_id=a.sale\_id AND b.cust\_name<>a.cust\_name));

+-----+-----+-----+

	sale_id	sale_name	sale_email	
--	---------	-----------	------------	--

+-----+-----+-----+

	5001	john	j@abc.com	
--	------	------	-----------	--

+-----+-----+-----+

1 row in set (0.00 sec)

```
mysql> select * from salesman;
+-----+-----+-----+
| sale_id | sale_name | sale_email |
+-----+-----+-----+
| 5001 | john | j@abc.com |
| 5002 | jack | joc@ac.com |
| 5003 | kim | k@ac.com |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from customer;
+-----+-----+-----+
| customer_id | cust_name | sale_id |
+-----+-----+-----+
| 3002 | Riya | 5001 |
| 3005 | Tanya | 5003 |
| 3007 | Divya | 5002 |
| 3008 | Ritika | 5001 |
| 3009 | Ritik | 5001 |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM salesman WHERE sale_id IN (SELECT DISTINCT sale_id FROM customer a WHERE EXISTS (SELECT * FROM customer b WHERE b.sale_id =a.sale_id AND b.cust_name<>a.cust_name));
+-----+-----+-----+
| sale_id | sale_name | sale_email |
+-----+-----+-----+
| 5001 | john | j@abc.com |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

6.Find the all sales person details along with order details.

```
mysql> select * from salesman;
+-----+-----+-----+
| sale_id | sale_name | sale_email |
+-----+-----+-----+
| 5001 | john | j@abc.com |
| 5002 | jack | joc@ac.com |
| 5003 | kim | k@ac.com |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from orders;
+----+-----+-----+
| oid | salesman_id | description |
+----+-----+-----+
| 1 | 5001 | Laptop |
| 2 | 5002 | phone |
| 3 | 5003 | phone |
| 4 | 5001 | ipad |
+----+-----+-----+
4 rows in set (0.00 sec)
```

**mysql> select \* from salesman s left join orders o on s.sale\_id = o.salesman\_id;**

```
+-----+-----+-----+-----+-----+-----+
| sale_id | sale_name | sale_email | oid | salesman_id | description |
+-----+-----+-----+-----+-----+-----+
| 5001 | john | j@abc.com | 1 | 5001 | Laptop |
| 5001 | john | j@abc.com | 4 | 5001 | ipad |
| 5002 | jack | joc@ac.com | 2 | 5002 | phone |
| 5003 | kim | k@ac.com | 3 | 5003 | phone |
+-----+-----+-----+-----+-----+-----+
```



sale_id	sale_name	sale_email	oid	salesman_id	description
5001	john	j@abc.com	1	5001	Laptop
5002	jack	joc@ac.com	2	5002	phone
5003	kim	k@ac.com	3	5003	phone
5001	john	j@abc.com	4	5001	ipad

```
mysql> select * from salesman;
+-----+-----+-----+
| sale_id | sale_name | sale_email |
+-----+-----+-----+
| 5001 | john | j@abc.com |
| 5002 | jack | joc@ac.com |
| 5003 | kim | k@ac.com |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from orders;
+-----+-----+-----+
| oid | salesman_id | description |
+-----+-----+-----+
| 1 | 5001 | Laptop |
| 2 | 5002 | phone |
| 3 | 5003 | phone |
| 4 | 5001 | ipad |
+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> select * from salesman s left join orders o on s.sale_id = o.salesman_id;
+-----+-----+-----+-----+-----+-----+
| sale_id | sale_name | sale_email | oid | salesman_id | description |
+-----+-----+-----+-----+-----+-----+
| 5001 | john | j@abc.com | 1 | 5001 | Laptop |
| 5002 | jack | joc@ac.com | 2 | 5002 | phone |
| 5003 | kim | k@ac.com | 3 | 5003 | phone |
| 5001 | john | j@abc.com | 4 | 5001 | ipad |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

## 7.Create index

```
mysql> create index cindex1 on customer (cname);
```

## 8.How to show index on a table

```
mysql> show index from customer;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
customer	0	PRIMARY	1	cid	A	4			NULL	BTREE		NULL



customer	1	cindex	1	cid	A	4	NULL	NULL
		BTREE						
customer	1	cindex1	1	cname	A	4	NULL	NULL
YES		BTREE						

```

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+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> create index cindex1 on customer (cname);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> show index from customer;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| customer | 0 | PRIMARY | 1 | cid | A | 4 | NULL | NULL | YES | BTREE |
| customer | 1 | cindex | 1 | cid | A | 4 | NULL | NULL | YES | BTREE |
| customer | 1 | cindex1 | 1 | cname | A | 4 | NULL | NULL | YES | BTREE |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> exit
exit
^C
mysql>
^C

```

**9. Find the order number, sale person name, along with the customer to whom that order belongs to.**

```
mysql> select oid, sale_name, cust_name from orders o inner join salesman s on
o.salesman_id = s.sale id inner join customer c on c.sale_id = o.salesman_id;
```

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'id inner join customer c on c.sale\_id = o.salesman\_id' at line 1

**ANSWER:**

```
mysql> select oid, sale_name, cust_name from orders o inner join salesman s on
o.salesman_id = s.sale_id inner join customer c on c. sale_id = s.sale_id;
```

Database changed

```
mysql> select oid, sale_name, cust_name from orders o inner join salesman s on o  
.salesman_id = s.sale_id inner join customer c on c.sale_id = s.sale_id;
```

oid	sale_name	cust_name
1	john	Riya
4	john	Riya
3	kim	Tanya
2	jack	Divya
1	john	Ritika
4	john	Ritika
1	john	Ritik
4	john	Ritik

8 rows in set (0.00 sec)