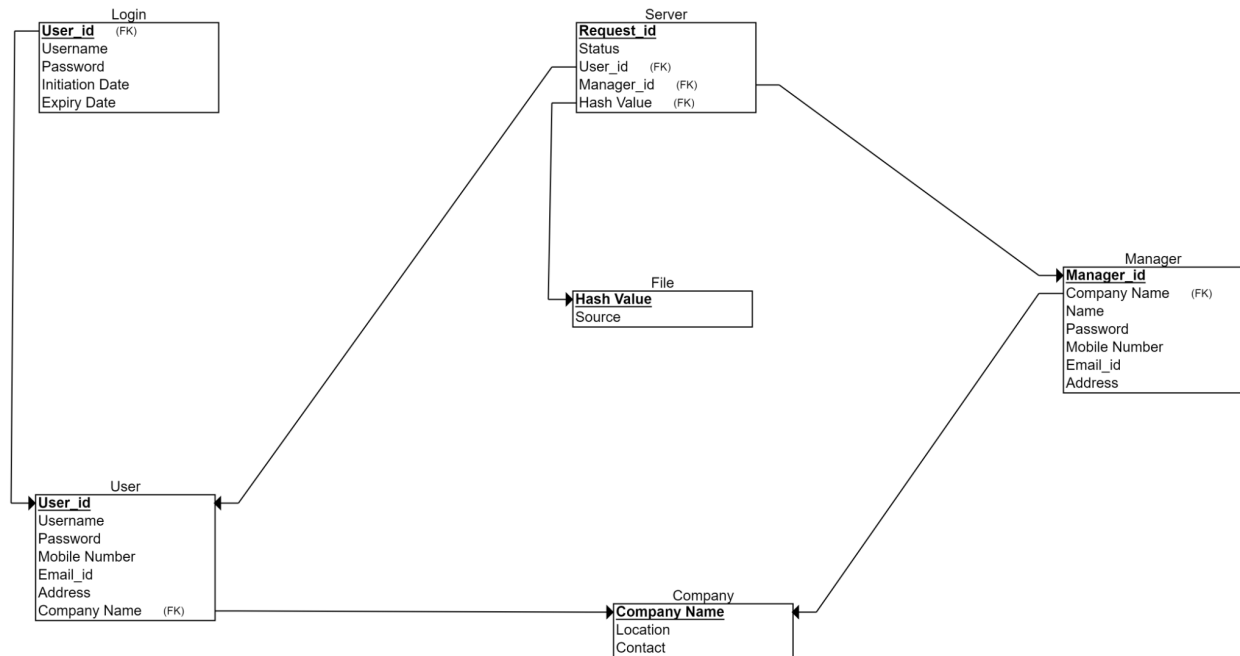


Exercise 3 & 4

Relational Model and SQL Commands



User -	Primary key	foreign key
Login -	user id	company name
Company -	user id	user id
Server -	company name	-
Manager -	request id	user id, manager id, hashvalue
File -	manager id	company name
	hash value	-

Screen shots of various SQL commands used

```
Command Prompt - mysql -u root -p -h localhost

MariaDB [(none)]> create database cloud_management;
Query OK, 1 row affected (0.091 sec)

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| cloud_management |
| dbms_lab |
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
+-----+
6 rows in set (0.001 sec)

MariaDB [(none)]> select database();
+-----+
| database() |
+-----+
| NULL |
+-----+
1 row in set (0.000 sec)

MariaDB [(none)]> use cloud_management;
Database changed
MariaDB [cloud_management]> select database();
+-----+
| database() |
+-----+
| cloud_management |
+-----+
1 row in set (0.000 sec)

MariaDB [cloud_management]> drop database cloud_management;
Query OK, 0 rows affected (0.003 sec)

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| dbms_lab |
+-----+
```

```
Command Prompt - mysql -u root -p -h localhost

MariaDB [cloud_management]> create table User(user_id int not null auto_increment ,
-> username varchar(20)not null, password varchar(10) not null,
-> mobile_number int not null, email varchar(20) not null,
-> address varchar(20) not null);
ERROR 1075 (42000): Incorrect table definition; there can be only one auto column and it must be defined as a key
MariaDB [cloud_management]> create table User(user_id int not null auto_increment primary key,
-> username varchar(20)not null, password varchar(10) not null,
-> mobile_number int not null, email varchar(20) not null,
-> address varchar(20) not null);
Query OK, 0 rows affected (0.044 sec)

MariaDB [cloud_management]> create table company(company_name varchar(20) not null primary key,
-> location varchar(20) not null , contact int not null);
Query OK, 0 rows affected (0.041 sec)

MariaDB [cloud_management]> alter table user add foreign key(company_name) references company(company_name);
ERROR 1072 (42000): Key column 'company_name' doesn't exist in table
MariaDB [cloud_management]> alter table user add company_name foreign key(company_name) references company(company_name);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'foreign key(com
pany_name) references company(company_name)' at line 1
MariaDB [cloud_management]> alter table user add company_name varchar(20);
Query OK, 0 rows affected (0.023 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [cloud_management]> alter table user foreign key(company_name) references company(company_name);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'foreign key(com
pany_name) references company(company_name)' at line 1
MariaDB [cloud_management]> desc user;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| user_id | int(11) | NO | PRI | NULL | auto_increment |
| username | varchar(20) | NO | | NULL | |
| password | varchar(10) | NO | | NULL | |
| mobile_number | int(11) | NO | | NULL | |
| email | varchar(20) | NO | | NULL | |
| address | varchar(20) | NO | | NULL | |
| company_name | varchar(20) | YES | | NULL | |
+-----+
7 rows in set (0.012 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
MariaDB [cloud_management]> alter table user add company_name varchar(20) not null;
Query OK, 0 rows affected (0.020 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [cloud_management]> desc user;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| user_id    | int(11)   | NO   | PRI | NULL    | auto_increment |
| username   | varchar(20) | NO   |     | NULL    |
| password   | varchar(10) | NO   |     | NULL    |
| mobile_number | int(11)   | NO   |     | NULL    |
| email      | varchar(20) | NO   |     | NULL    |
| address    | varchar(20) | NO   |     | NULL    |
| company_name | varchar(20) | NO   |     | NULL    |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.013 sec)

MariaDB [cloud_management]> alter table user add foreign key(company_name) references company(company_name);
Query OK, 0 rows affected (0.106 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [cloud_management]> desc user;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| user_id    | int(11)   | NO   | PRI | NULL    | auto_increment |
| username   | varchar(20) | NO   |     | NULL    |
| password   | varchar(10) | NO   |     | NULL    |
| mobile_number | int(11)   | NO   |     | NULL    |
| email      | varchar(20) | NO   |     | NULL    |
| address    | varchar(20) | NO   |     | NULL    |
| company_name | varchar(20) | NO   | MUL | NULL    |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.015 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
7 rows in set (0.015 sec)

MariaDB [cloud_management]> create table manager(manager_id int not null primary key,
-> company_name varchar(20) not null, name varchar(20) not null,
-> password varchar(20) not null, mobile_number int not null, email_id varchar(20) not null,
-> address varchar(20) not null, foreign key(company_name) references company(company_name) );
Query OK, 0 rows affected (0.040 sec)

MariaDB [cloud_management]> desc manager;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| manager_id | int(11)   | NO   | PRI | NULL    |
| company_name | varchar(20) | NO   | MUL | NULL    |
| name       | varchar(20) | NO   |     | NULL    |
| password   | varchar(20) | NO   |     | NULL    |
| mobile_number | int(11)   | NO   |     | NULL    |
| email_id   | varchar(20) | NO   |     | NULL    |
| address    | varchar(20) | NO   |     | NULL    |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.015 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
7 rows in set (0.015 sec)

MariaDB [cloud_management]> create table login(user_id int not null primary key,
-> username varchar(20) not null, password varchar(20) not null,
-> initiation_date date not null, expiry_date date not null,
-> foreign key(user_id) references user(user_id));
Query OK, 0 rows affected (0.044 sec)

MariaDB [cloud_management]> desc login;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| user_id | int(11) | NO | PRI | NULL | |
| username | varchar(20) | NO | | NULL | |
| password | varchar(20) | NO | | NULL | |
| initiation_date | date | NO | | NULL | |
| expiry_date | date | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.015 sec)

MariaDB [cloud_management]> _
```

```
Command Prompt - mysql -u root -p -h localhost
5 rows in set (0.015 sec)

MariaDB [cloud_management]> create table server(request_id int not null primary key,
-> status varchar(20) not null, user_id int not null, manager_id int not null,
-> hash_value int not null);
Query OK, 0 rows affected (0.041 sec)

MariaDB [cloud_management]> desc server;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| request_id | int(11) | NO | PRI | NULL | |
| status | varchar(20) | NO | | NULL | |
| user_id | int(11) | NO | | NULL | |
| manager_id | int(11) | NO | | NULL | |
| hash_value | int(11) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.015 sec)

MariaDB [cloud_management]> alter table server add foreign key(user_id) references user(user_id);
Query OK, 0 rows affected (0.109 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [cloud_management]> alter table server add foreign key(manager_id) references manager(manager_id);
Query OK, 0 rows affected (0.109 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [cloud_management]> desc server;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| request_id | int(11) | NO | PRI | NULL | |
| status | varchar(20) | NO | | NULL | |
| user_id | int(11) | NO | MUL | NULL | |
| manager_id | int(11) | NO | MUL | NULL | |
| hash_value | int(11) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.017 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
5 rows in set (0.015 sec)

MariaDB [cloud_management]> insert into company values ('google' , 'hyderabad', 04841234);
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> insert into company values ('cisco' , 'hyderabad', 04841896);
Query OK, 1 row affected (0.031 sec)

MariaDB [cloud_management]> insert into company values ('arcesium' , 'bangalore', 04844568);
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> insert into company values ('facebook' , 'noida', 12347896);
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> insert into company values ('amazon' , 'chennai', 60501234);
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> show table company;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'company' at line 1

MariaDB [cloud_management]> select * from company;
+-----+-----+-----+
| company_name | location | contact |
+-----+-----+-----+
| amazon       | chennai  | 60501234 |
| arcesium     | bangalore | 4844568  |
| cisco        | hyderabad | 4841896  |
| facebook     | noida    | 12347896 |
| google       | hyderabad | 4841234  |
+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
1 row in set (0.000 sec)

MariaDB [cloud_management]> insert into user values (1, "Amit Kumar" , 'B190343CS', 8891116432, 'amit@gmail.com' , 'Delhi' , 'google');
Query OK, 1 row affected, 1 warning (0.005 sec)

MariaDB [cloud_management]> insert into user values (1, "Gopal" , 'B190501CS', 8856487952, 'gopal@gmail.com' , 'hyderabad' , 'arcesium');
ERROR 1062 (23000): Duplicate entry '1' for key 'PRIMARY'
MariaDB [cloud_management]> insert into user values (2, "Gopal" , 'B190501CS', 8856487952, 'gopal@gmail.com' , 'hyderabad' , 'arcesium');
Query OK, 1 row affected, 1 warning (0.003 sec)

MariaDB [cloud_management]> insert into user values (3, "Srijith" , 'B190410CS', 9400938627, 'srijith@gmail.com' , 'hyderabad' , 'cisco');
Query OK, 1 row affected, 1 warning (0.003 sec)

MariaDB [cloud_management]> insert into user values (4, "mihir madhav" , 'B190544CS', 9496575745, 'mihir@gmail.com' , 'mumbai' , 'amazon');
Query OK, 1 row affected, 1 warning (0.004 sec)

MariaDB [cloud_management]> insert into user values (5, "ganesh g" , 'B190466CS', 9445462514, 'ganesh@gmail.com' , 'kollam' , 'facebook');
Query OK, 1 row affected, 1 warning (0.005 sec)

MariaDB [cloud_management]> desc user;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| user_id | int(11) | NO | PRI | NULL | auto_increment |
| username | varchar(20) | NO | | NULL | |
| password | varchar(10) | NO | | NULL | |
| mobile_number | int(11) | NO | | NULL | |
| email | varchar(20) | NO | | NULL | |
| address | varchar(20) | NO | | NULL | |
| company_name | varchar(20) | NO | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.015 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
Query OK, 1 row affected, 1 warning (0.005 sec)

MariaDB [cloud_management]> insert into user values (1, "Gopal", 'B190501CS', 8856487952, 'gopal@gmail.com', 'hyderabad', 'arcesium');
ERROR 1062 (23000): Duplicate entry '1' for key 'PRIMARY'
MariaDB [cloud_management]> insert into user values (2, "Gopal", 'B190501CS', 8856487952, 'gopal@gmail.com', 'hyderabad', 'arcesium');
Query OK, 1 row affected, 1 warning (0.003 sec)

MariaDB [cloud_management]> insert into user values (3, "Srijith", 'B190410CS', 9400938627, 'srijith@gmail.com', 'hyderabad', 'cisco');
Query OK, 1 row affected, 1 warning (0.003 sec)

MariaDB [cloud_management]> insert into user values (4, "mihir madhav", 'B190544CS', 9496575745, 'mihir@gmail.com', 'mumbai', 'amazon');
Query OK, 1 row affected, 1 warning (0.004 sec)

MariaDB [cloud_management]> insert into user values (5, "ganesh g", 'B190466CS', 9445462514, 'ganesh@gmail.com', 'kollam', 'facebook');
Query OK, 1 row affected, 1 warning (0.005 sec)

MariaDB [cloud_management]> desc user;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| user_id | int(11) | NO | PRI | NULL | auto_increment |
| username | varchar(20) | NO | | NULL | |
| password | varchar(10) | NO | | NULL | |
| mobile_number | int(11) | NO | | NULL | |
| email | varchar(20) | NO | | NULL | |
| address | varchar(20) | NO | | NULL | |
| company_name | varchar(20) | NO | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.015 sec)

MariaDB [cloud_management]> select * from user;
+-----+-----+-----+-----+-----+-----+-----+
| user_id | username | password | mobile_number | email | address | company_name |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Amit Kumar | B190343CS | 2147483647 | amit@gmail.com | Delhi | google |
| 2 | Gopal | B190501CS | 2147483647 | gopal@gmail.com | hyderabad | arcesium |
| 3 | Srijith | B190410CS | 2147483647 | srijith@gmail.com | hyderabad | cisco |
| 4 | mihir madhav | B190544CS | 2147483647 | mihir@gmail.com | mumbai | amazon |
| 5 | ganesh g | B190466CS | 2147483647 | ganesh@gmail.com | kollam | facebook |
+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]> _
```

```
Command Prompt - mysql -u root -p -h localhost
5 rows in set (0.001 sec)

MariaDB [cloud_management]> insert into manager values(1, 'google', 'Gaurav Sen', '1234', 9400938627, 'gaurav@gmail.com', 'noida' );
Query OK, 1 row affected, 1 warning (0.005 sec)

MariaDB [cloud_management]> insert into manager values(2, 'cisco', 'Akshay Saini', '1234', 7594944562, 'akshav@cisco.com', 'kolkata' );
Query OK, 1 row affected, 1 warning (0.004 sec)

MariaDB [cloud_management]> insert into manager values(3, 'amazon', 'raj Kapoor', '1234', 9496575745, 'raj@amazon.com', 'kanpur' );
Query OK, 1 row affected, 1 warning (0.002 sec)

MariaDB [cloud_management]> insert into manager values(4, 'arcesium', 'rahu1 g', '1234', 8891116432, 'rahu1@arcesium.com', 'kochi' );
Query OK, 1 row affected, 1 warning (0.004 sec)

MariaDB [cloud_management]> insert into manager values(5, 'facebook', 'mark', '1234', 7896542315, 'mark@facebook.com', 'gujrat' );
Query OK, 1 row affected, 1 warning (0.003 sec)

MariaDB [cloud_management]> select * from manager;
+-----+-----+-----+-----+-----+-----+-----+
| manager_id | company_name | name | password | mobile_number | email_id | address |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | google | Gaurav Sen | 1234 | 2147483647 | gaurav@gmail.com | noida |
| 2 | cisco | Akshay Saini | 1234 | 2147483647 | akshav@cisco.com | kolkata |
| 3 | amazon | raj Kapoor | 1234 | 2147483647 | raj@amazon.com | kanpur |
| 4 | arcesium | rahu1 g | 1234 | 2147483647 | rahu1@arcesium.com | kochi |
| 5 | facebook | mark | 1234 | 2147483647 | mark@facebook.com | gujrat |
+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]> select count(name) from manager;
+-----+
| count(name) |
+-----+
| 5 |
+-----+
1 row in set (0.000 sec)

MariaDB [cloud_management]> _
```

```
Command Prompt - mysql -u root -p -h localhost
MariaDB [cloud_management]> insert into login values(1 , 'Amit Kumar' , 'B190343CS' , '2021-09-06' , '2021-09-30');
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> insert into login values(2 , 'Gopal' , 'B190501CS' , '2021-09-06' , '2021-09-30');
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> insert into login values(3 , 'Srijith' , 'B190410CS' , '2021-09-06' , '2021-09-30');
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> insert into login values(4 , 'mihir madhav' , 'B190544CS' , '2021-09-06' , '2021-09-30');
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> insert into login values(5 , 'ganesh g' , 'B190466CS' , '2021-09-06' , '2021-09-30');
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> select * from login;
+-----+-----+-----+-----+-----+
| user_id | username | password | initiation_date | expiry_date |
+-----+-----+-----+-----+-----+
| 1 | Amit Kumar | B190343CS | 2021-09-06 | 2021-09-30 |
| 2 | Gopal | B190501CS | 2021-09-06 | 2021-09-30 |
| 3 | Srijith | B190410CS | 2021-09-06 | 2021-09-30 |
| 4 | mihir madhav | B190544CS | 2021-09-06 | 2021-09-30 |
| 5 | ganesh g | B190466CS | 2021-09-06 | 2021-09-30 |
+-----+-----+-----+-----+-----+
5 rows in set (0.000 sec)

MariaDB [cloud_management]> select max(password) from login;
+-----+
| max(password) |
+-----+
| B190544CS |
+-----+
1 row in set (0.001 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> select * from files;
ERROR 1146 (42S02): Table 'cloud_management.files' doesn't exist

MariaDB [cloud_management]> select * from file;
+-----+-----+
| hash_value | source |
+-----+-----+
| 1 | update |
| 2 | delete |
| 3 | retrieve |
| 4 | transfer |
| 5 | share |
+-----+-----+
5 rows in set (0.000 sec)

MariaDB [cloud_management]> select * from file
-> order by source;
+-----+-----+
| hash_value | source |
+-----+-----+
| 2 | delete |
| 3 | retrieve |
| 5 | share |
| 4 | transfer |
| 1 | update |
+-----+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]> select * from file
-> order by source desc
-> limit 4;
+-----+-----+
| hash_value | source |
+-----+-----+
| 1 | update |
| 4 | transfer |
| 5 | share |
| 3 | retrieve |
+-----+-----+
4 rows in set (0.000 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
+-----+
4 rows in set (0.000 sec)

MariaDB [cloud_management]> insert into server values(1, 'pending' , 1 , 1 , 1);
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> insert into server values(2, 'processing' , 2 , 2 , 2);
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> insert into server values(3, 'denied' , 3 , 3 , 3);
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> insert into server values(4, 'completed' , 4 , 4 , 4);
Query OK, 1 row affected (0.004 sec)

MariaDB [cloud_management]> insert into server values(5, 'denied' , 5 , 5 , 5);
Query OK, 1 row affected (0.003 sec)

MariaDB [cloud_management]> select * from server;
+-----+
| request_id | status | user_id | manager_id | hash_value |
+-----+
| 1 | pending | 1 | 1 | 1 |
| 2 | processing | 2 | 2 | 2 |
| 3 | denied | 3 | 3 | 3 |
| 4 | completed | 4 | 4 | 4 |
| 5 | denied | 5 | 5 | 5 |
+-----+
5 rows in set (0.000 sec)

MariaDB [cloud_management]> select * from server where status='denied';
+-----+
| request_id | status | user_id | manager_id | hash_value |
+-----+
| 3 | denied | 3 | 3 | 3 |
| 5 | denied | 5 | 5 | 5 |
+-----+
2 rows in set (0.000 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
+-----+
2 rows in set (0.000 sec)

MariaDB [cloud_management]> select * from user join manager on user.company_name = manager.company_name;
+-----+
| user_id | username | password | mobile_number | email | address | company_name | manager_id | company_name | name | password | mobile_number |
+-----+
| 1 | Amit Kumar | B190343CS | 2147483647 | amit@gmail.com | Delhi | google | 1 | google | Gaurav Sen | 1234 | 2147483647 |
| 3 | Srijith | B190410CS | 2147483647 | srijith@gmail.com | hyderabad | cisco | 2 | cisco | Akshay Saini | 1234 | 2147483647 |
| 4 | mihir madhav | B190544CS | 2147483647 | mihir@gmail.com | mumbai | amazon | 3 | amazon | raj kapoor | 1234 | 2147483647 |
| 2 | Gopal | B190501CS | 2147483647 | gopal@gmail.com | hyderabad | arcesium | 4 | arcesium | rahul g | 1234 | 2147483647 |
| 5 | ganesh g | B190466CS | 2147483647 | ganesh@gmail.com | kollam | facebook | 5 | facebook | mark | 1234 | 2147483647 |
+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]> select username,company_name, name from user join manager on user.company_name = manager.company_name;
ERROR 1052 (23000): Column 'company_name' in field list is ambiguous
MariaDB [cloud_management]> select username,user.company_name, name from user join manager on user.company_name = manager.company_name;
+-----+
| username | company_name | name |
+-----+
| Amit Kumar | google | Gaurav Sen |
| Srijith | cisco | Akshay Saini |
| mihir madhav | amazon | raj kapoor |
| Gopal | arcesium | rahul g |
| ganesh g | facebook | mark |
+-----+
5 rows in set (0.000 sec)

MariaDB [cloud_management]>
```



```
Command Prompt - mysql -u root -p -h localhost
5 rows in set (0.000 sec)

MariaDB [cloud_management]> select * from user left join manager on user.company_name = manager.company_name;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| user_id | username | password | mobile_number | email | address | company_name | manager_id | company_name | name | password | mobile_number |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Amit Kumar | B190343CS | 2147483647 | amit@gmail.com | Delhi | google | 1 | google | Gaurav Sen | 1234 | 2147483647 |
| 3 | Srijith | B190410CS | 2147483647 | srijith@gmail.com | hyderabad | cisco | 2 | cisco | Akshay Saini | 1234 | 2147483647 |
| 4 | mihi madhav | B190544CS | 2147483647 | mihi@gmail.com | mumbai | amazon | 3 | amazon | raj kapoor | 1234 | 2147483647 |
| 2 | Gopal | B190501CS | 2147483647 | gopal@gmail.com | hyderabad | arcesium | 4 | arcesium | rahul g | 1234 | 2147483647 |
| 5 | ganesh g | B190466CS | 2147483647 | ganesh@gmail.com | kollam | facebook | 5 | facebook | mark | 1234 | 2147483647 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]> insert into user values ();
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails ('cloud_management`.`user`, CONSTRAINT `user_ibfk_1` FOREIGN KEY (`company_name`) REFERENCES `company` (`company_name`))
MariaDB [cloud_management]> insert into user values ();
```

```
Command Prompt - mysql -u root -p -h localhost
5 rows in set (0.001 sec)

MariaDB [cloud_management]> select * from manager right join user on user.company_name = manager.company_name;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| manager_id | company_name | name | password | mobile_number | email_id | address | user_id | username | password | mobile_number | email |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | google | Gaurav Sen | 1234 | 2147483647 | gaurav@gmail.com | noida | 1 | Amit Kumar | B190343CS | 2147483647 | amit@gmail.com |
| 2 | cisco | Akshay Saini | 1234 | 2147483647 | akshav@cisco.com | kolkata | 3 | Srijith | B190410CS | 2147483647 | srijith@gmail.co |
| 3 | amazon | raj kapoor | 1234 | 2147483647 | raj@amazon.com | kanpur | 4 | mihi madhav | B190544CS | 2147483647 | mihi@gmail.com |
| 4 | arcesium | rahul g | 1234 | 2147483647 | rahul@arcesium.com | kochi | 2 | Gopal | B190501CS | 2147483647 | gopal@gmail.com |
| 5 | facebook | mark | 1234 | 2147483647 | mark@facebook.com | gujrat | 5 | ganesh g | B190466CS | 2147483647 | ganesh@gmail.com |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [cloud_management]>
```

```
Command Prompt - mysql -u root -p -h localhost
MariaDB [cloud_management]> select avg(mobile_number) from user;
+-----+
| avg(mobile_number) |
+-----+
| 2147483647.0000 |
+-----+
1 row in set (0.001 sec)

MariaDB [cloud_management]> select max(mobile_num) from user;
ERROR 1054 (42S22): Unknown column 'mobile_num' in 'field list'
MariaDB [cloud_management]> select max(mobile_number) from user;
+-----+
| max(mobile_number) |
+-----+
| 2147483647 |
+-----+
1 row in set (0.000 sec)

MariaDB [cloud_management]> select min(mobile_number) from user;
+-----+
| min(mobile_number) |
+-----+
| 2147483647 |
+-----+
1 row in set (0.000 sec)

MariaDB [cloud_management]> select distinct(mobile_number) from user;
+-----+
| mobile_number |
+-----+
| 2147483647 |
+-----+
1 row in set (0.001 sec)

MariaDB [cloud_management]> select count(names) from user;
ERROR 1054 (42S22): Unknown column 'names' in 'field list'
MariaDB [cloud_management]> select count(name) from user;
ERROR 1054 (42S22): Unknown column 'name' in 'field list'
MariaDB [cloud_management]> select count(username) from user;
+-----+
| count(username) |
+-----+
| 5 |
+-----+
```

```
Command Prompt - mysql -u root -p -h localhost
MariaDB [cloud_management]> select username from user where username like '%i%';
+-----+
| username |
+-----+
| Amit Kumar |
| Srijith |
| mihir madhav |
+-----+
3 rows in set (0.001 sec)

MariaDB [cloud_management]>
```