

Lab 4 - DML – Insert, Update, Delete, Transactions - Commit, Rollback, Save point

Assignment: Railway Reservation System

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PES1UG20CS150

SECTION C

1. Insert the shared data into the respective tables using appropriate insert query.

```
XAMPP for Windows - mysql -u root
MariaDB [PES1UG20CS150_RRS_UPDATED]> source C:/Users/Gaurav/Downloads/railway__1_.sql
Query OK, 0 rows affected (0.006 sec)

Query OK, 0 rows affected (0.001 sec)

Query OK, 0 rows affected (0.001 sec)

Query OK, 0 rows affected (0.001 sec)

Query OK, 0 rows affected (0.000 sec)

Query OK, 0 rows affected (0.000 sec)

Query OK, 0 rows affected (0.001 sec)

Query OK, 0 rows affected (0.027 sec)

Query OK, 20 rows affected (0.011 sec)
Records: 20 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.012 sec)

Query OK, 9 rows affected (0.002 sec)
Records: 9 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.012 sec)

Query OK, 13 rows affected (0.002 sec)
Records: 13 Duplicates: 0 Warnings: 0
```

XAMPP for Windows - mysql -u root

```
Query OK, 20 rows affected (0.038 sec)
Records: 20 Duplicates: 0 Warnings: 0

Query OK, 13 rows affected (0.038 sec)
Records: 13 Duplicates: 0 Warnings: 0

Query OK, 44 rows affected (0.036 sec)
Records: 44 Duplicates: 0 Warnings: 0

Query OK, 13 rows affected (0.038 sec)
Records: 13 Duplicates: 0 Warnings: 0

Query OK, 21 rows affected (0.035 sec)
Records: 21 Duplicates: 0 Warnings: 0

Query OK, 66 rows affected (0.032 sec)
Records: 66 Duplicates: 0 Warnings: 0

Query OK, 103 rows affected (0.054 sec)
Records: 103 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.000 sec)

Query OK, 0 rows affected (0.000 sec)

Query OK, 0 rows affected (0.000 sec)

Query OK, 0 rows affected (0.000 sec)
```

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> show tables
-> ;
```

```
+-----+
| Tables_in_pes1ug20cs150_rrs_updated |
+-----+
| compartment
| fare
| payment_info
| route_info
| ticket
| ticket_passenger
| train
| train_user
| user_phone
| user_train
+-----+
```

```
10 rows in set (0.004 sec)
```

```
MariaDB [PES1UG20CS150_RRS_UPDATED]>
```

2. Calculate and update age attribute in User Table.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> update train_user set Age=DATE_FORMAT(FROM_DAYS(DATEDIFF(now(),DOB)), '%Y')+0;
Query OK, 33 rows affected (0.009 sec)
Rows matched: 33  Changed: 33  Warnings: 0
```

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select user_id ,age,dob from train_user;
```

user_id	age	dob
ADM_001	33	1989-04-14
ADM_002	32	1990-04-14
ADM_003	31	1991-04-08
USR_001	51	1971-01-01
USR_002	21	2000-10-09
USR_003	25	1996-12-12
USR_004	25	1996-12-13
USR_005	24	1997-12-14
USR_006	23	1998-12-15
USR_007	22	1999-12-16
USR_008	56	1966-04-14
USR_009	55	1967-04-08
USR_010	54	1968-04-14
USR_011	53	1969-04-14
USR_012	52	1970-04-08
USR_013	51	1971-04-14
USR_014	50	1972-04-14
USR_015	49	1973-04-14
USR_016	48	1974-04-14
USR_017	47	1975-04-08
USR_018	46	1976-04-14
USR_019	45	1977-04-14
USR_020	44	1978-04-14
USR_021	43	1979-04-08
USR_022	42	1980-04-14
USR_023	41	1981-04-14
USR_024	40	1982-04-08
USR_025	39	1983-04-08
USR_026	38	1984-04-14
USR_027	37	1985-04-14
USR_028	36	1986-04-08
USR_029	35	1987-04-14
USR_030	34	1988-04-14

3. Display all the route information whose distance falls in a range from 70 to 150 km.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select * from route_info where distance between 70 and 150
-> ;
```

from_station_no	to_station_no	from_station_name	to_station_name	distance	train_no
1	2	Mangaluru	Kannur	131	25260
4	4	Palakkad	Chennai	130	25260
1	2	Chennai	Palakkad	130	25261
3	4	Kannur	Mangaluru	131	25261
3	4	Mysore	Bengaluru	139	58450
1	2	Bengaluru	Mysore	139	58451
1	2	Chennai	Sholingur	90	62620
1	3	Chennai	Katpadi	129	62620
4	5	Bangarpet	Bengaluru	71	62620
1	2	Bengaluru	Bangarpet	71	62621
3	5	Katpadi	Chennai	130	62621
4	5	Sholingur	Chennai	90	62621

12 rows in set (0.008 sec)

4. Display the train route information which are run between Chennai and Sholingur

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select * from route_info where from_station_name in('Chennai','Sholingur')and to_station_name in ('Sholingur','Chennai');
```

from_station_no	to_station_no	from_station_name	to_station_name	distance	train_no
1	2	Chennai	Sholingur	90	62620
2	5	Sholingur	Chennai	271	62620
4	5	Sholingur	Chennai	90	62621

3 rows in set (0.001 sec)

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> _
```

5. Display the train details whose type is not mail

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> desc Train
-> ;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| train_no   | int(11)   | NO   | PRI | NULL    |       |
| train_name | varchar(20)| YES  |     | NULL    |       |
| train_type | varchar(10)| YES  |     | NULL    |       |
| source     | varchar(20)| YES  |     | NULL    |       |
| destination| varchar(30)| YES  |     | NULL    |       |
| availability| varchar(10)| YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.009 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]> select * from train where train_type not like 'Mail';
+-----+-----+-----+-----+-----+-----+
| train_no | train_name      | train_type | source    | destination | availability |
+-----+-----+-----+-----+-----+-----+
| 58450    | MAN-BEN Express | Fast      | Mangaluru | Bengaluru    | yes         |
| 58451    | BEN-MAN Express | Fast      | Bengaluru | Mangaluru    | yes         |
| 62620    | CHE-BEN Shatabdi | Superfast | Chennai   | Bengaluru    | No          |
| 62621    | BEN-CHE Shatabdi | Superfast | Bengaluru | Chennai      | yes         |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.003 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]>
```

6. Display the train name which goes to Chennai from Bangalore

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select train_name from train where source like 'Bengaluru' and destination like 'Chennai';
+-----+
| train_name |
+-----+
| BEN-CHE Shatabdi |
+-----+
1 row in set (0.001 sec)
```

7. Display the list of trains starting from Chennai after 8:00.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select * from ticket where departure like 'Chennai' and departure_time > '08:00';
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| pnr      | train_no | travel_date | departure | arrival   | departure_time | arrival_time | passenger_id | train_type |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PNR003   | 25261    | 2022-08-01  | Chennai   | Mangaluru | 18:00:00      | 07:30:00    | ADM_003     | Mail       |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| III Class | G02      |              |           |           |               |              |              |           |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.001 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]>
```

8. Display the list of users who are born between 1980 to 1990.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select * from train_user where dob between '1980-01-01' and '1990-12-31'
-> ;\

+-----+-----+-----+-----+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname | age | dob       | pincode | street_number |
+-----+-----+-----+-----+-----+-----+-----+-----+
| ADM_001 | ADMIN    | Narendra  | Modi     | 33  | 1989-04-14 | 600047  | Old Jail Road |
| ADM_002 | ADMIN    | Droupadi  | Murmu    | 32  | 1990-04-14 | 640012  | High Street   |
| USR_022 | PSGR     | Srihari   | Udupa    | 42  | 1980-04-14 | 560015  | Suranjan Das Road |
| USR_023 | PSGR     | Satish    | Kotian   | 41  | 1981-04-14 | 600044  | T Nagar       |
| USR_024 | PSGR     | Shradha   | Nayar    | 40  | 1982-04-08 | 560006  | M G Road, Bangalore |
| USR_025 | PSGR     | Manisha   | Solanki  | 39  | 1983-04-08 | 575030  | M G Road      |
| USR_026 | PSGR     | Bharti    | Devgan   | 38  | 1984-04-14 | 560059  | NAL Wind Tunnel Road |
| USR_027 | PSGR     | Roopa     | Ram      | 37  | 1985-04-14 | 575023  | Bunder Road   |
| USR_028 | PSGR     | Pallavi   | Ram      | 36  | 1986-04-08 | 560044  | Lavelle Road  |
| USR_029 | PSGR     | Ravi      | Naik     | 35  | 1987-04-14 | 600045  | Thiru V ka Salai |
| USR_030 | PSGR     | Virat     | Murthy   | 34  | 1988-04-14 | 575011  | Bejai New Road |
+-----+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.001 sec)
```

9. Display the train users whose name starts with the letter 'S'

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select * from train_user where firstname like 'S%';

+-----+-----+-----+-----+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname | age | dob       | pincode | street_number |
+-----+-----+-----+-----+-----+-----+-----+-----+
| USR_003 | PSGR     | Sai Deepak | Reddy    | 25  | 1996-12-12 | 600001  | 14, Kailsh Marg |
| USR_007 | PSGR     | Smriti     | Irani    | 22  | 1999-12-16 | 575014  | 4, Banyan Avenie |
| USR_010 | PSGR     | Samanta    | Prabhu   | 54  | 1968-04-14 | 600042  | 8, Clone Colony |
| USR_016 | PSGR     | Subbu      | Saravana | 48  | 1974-04-14 | 600043  | American Street |
| USR_017 | PSGR     | Sheela     | Dixit    | 47  | 1975-04-08 | 560048  | Kasturba Road   |
| USR_021 | PSGR     | Suma       | Sampat   | 43  | 1979-04-08 | 560012  | Old Airport Road, Bangalore |
| USR_022 | PSGR     | Srihari    | Udupa    | 42  | 1980-04-14 | 560015  | Suranjan Das Road |
| USR_023 | PSGR     | Satish     | Kotian   | 41  | 1981-04-14 | 600044  | T Nagar         |
| USR_024 | PSGR     | Shradha    | Nayar    | 40  | 1982-04-08 | 560006  | M G Road, Bangalore |
+-----+-----+-----+-----+-----+-----+-----+-----+
9 rows in set (0.001 sec)
```

```
MariaDB [PES1UG20CS150_RRS_UPDATED]>
```

10. Find the availability of I Class compartment of the train number 62621

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select availability from compartment where compartment_type like 'I Class' and train_number=62621;
+-----+
| availability |
+-----+
| 6            |
+-----+
1 row in set (0.006 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]> _
```

11. Find the PNR and Transaction ID of the users who made payment via Union Bank.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> select pnr,transaction_no,bank from payment_info where bank like 'Union Bank';
+-----+-----+-----+
| pnr   | transaction_no | bank      |
+-----+-----+-----+
| PNR012 | 243535         | UNION BANK |
| PNR015 | 758900         | UNION BANK |
| PNR010 | 867546         | UNION BANK |
| PNR003 | 978776         | UNION BANK |
+-----+-----+-----+
4 rows in set (0.001 sec)
```

Task-II: Use DCL and TCL statements for the following:

1. Grant privileges on different tables to users and observe the effect.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> create user user2 identified by "1234";
Query OK, 0 rows affected (0.010 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]> grant select,update,delete on train_user to user2;
Query OK, 0 rows affected (0.004 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]> show grants for user2;
+-----+-----+-----+
| Grants for user2@% |
+-----+-----+-----+
| GRANT USAGE ON *.* TO `user2`@`%` IDENTIFIED BY PASSWORD '*A4B6157319038724E3560894F7F932C8886EBFCF' |
| GRANT SELECT, UPDATE, DELETE ON `pes1ug20cs150_rrs_updated`.`train_user` TO `user2`@`%` |
+-----+-----+-----+
2 rows in set (0.003 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]>
```

2. Revoke UPDATE & DELETE privileges on any tables and observe the effect if any deletion/updation is performed.

```
MariaDB [PES1UG20CS150_RRS_UPDATED]> revoke delete,update on train_user from user2;
Query OK, 0 rows affected (0.004 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]> show grants for user2;
+-----+-----+-----+
| Grants for user2@% |
+-----+-----+-----+
| GRANT USAGE ON *.* TO `user2`@`%` IDENTIFIED BY PASSWORD '*A4B6157319038724E3560894F7F932C8886EBFCF' |
| GRANT SELECT ON `pes1ug20cs150_rrs_updated`.`train_user` TO `user2`@`%` |
+-----+-----+-----+
2 rows in set (0.000 sec)

MariaDB [PES1UG20CS150_RRS_UPDATED]> _
```