

DBMS LAB - UE20CS301 Lab 4 - DML – Insert, Update, Delete, Transactions - Commit, Rollback, Save point

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Section: H

Task-I: Use INSERT/SELECT/UPDATE queries for the following tasks:

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

- Show the usage of INSERT and LOAD DATA INFILE commands explicitly

2. Calculate and update age attribute in User Table.

```
MariaDB [pes1ug20cs450]> update train_user set age = timestampdiff(YEAR,dob,CURDATE());
Query OK, 33 rows affected (0.017 sec)
Rows matched: 33  Changed: 33  Warnings: 0
```

```
MariaDB [pes1ug20cs450]> select * from PES1UG20CS450_train_user;
```

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
ADM_003	ADMIN	Manmohan	Singh	31	1991-04-08	575003	Pumpwell Road
USR_001	PSGR	Ajit	Ullal	51	1971-01-01	560001	10, Janpath
USR_002	PSGR	Muhammed	Ali	21	2000-10-09	560003	10, Downing
USR_003	PSGR	Sai Deepak	Reddy	25	1996-12-12	600001	14, Kailsh Marg
USR_004	PSGR	Rudra	Agarwal	25	1996-12-13	600042	5, Lohia Garden
USR_005	PSGR	Rahul	Khanna	24	1997-12-14	600067	1, Pink Street
USR_006	PSGR	Nirmala	Seturaman	23	1998-12-15	560105	3, Blue Avenue
USR_007	PSGR	Smriti	Irani	22	1999-12-16	575014	4, Banyan Avenie
USR_008	PSGR	Ajit	Sethi	56	1966-04-14	575001	6, Poes Garden
USR_009	PSGR	Arjun	Allu	55	1967-04-08	575020	7, Dhamaka street
USR_010	PSGR	Samanta	Prabhu	54	1968-04-14	600042	8, Clone Colony
USR_011	PSGR	Kiran	Bedi	53	1969-04-14	560003	56, Brigade Road
USR_012	PSGR	Rahul	Gandhi	52	1970-04-08	475001	Mirza road
USR_013	PSGR	Rashkit	Shetty	51	1971-04-14	560009	JC Road
USR_014	PSGR	Rishi	Sunak	50	1972-04-14	600034	Anna Sali
USR_015	PSGR	Vedavalli	Srinath	49	1973-04-14	560054	Church Street, Bangalore
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_018	PSGR	Margaret	Alva	46	1976-04-14	560008	New BEL Road
USR_019	PSGR	Arjun	Kumar	45	1977-04-14	600046	Mint Street

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

```
MariaDB [peslug20cs450]> select * from PES1UG20CS450_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 (0.001 sec)
```

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

```
MariaDB [peslug20cs450]> select * from PES1UG20CS450_route_info WHERE from_station_name IN ('Chennai','Sholingur') AND to_station_name IN('Chennai','Sholingur');
```

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)
```

5. Display the train details whose type is not mail.

```
MariaDB [peslug20cs450]> select * from PES1UG20CS450_train where train_type!='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 (0.001 sec)
```

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

```
MariaDB [peslug20cs450]> select * from PES1UG20CS450_route_info WHERE from_station_name='Bengaluru' AND to_station_name='Chennai';
```

from_station_no	to_station_no	from_station_name	to_station_name	distance	train_no
1	5	Bengaluru	Chennai	362	62621

```
1 row in set (0.001 sec)
```

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

```
MariaDB [peslug20cs450]> select * from PES1UG20CS450_ticket WHERE departure='Chennai' AND departure_time > '8:00';
```

pnr	train_no	travel_date	departure	arrival	departure_time	arrival_time	passenger_id	train_type	compartment_type	compartment_no
PNR003	25261	2022-08-01	Chennai	Mangaluru	18:00:00	07:30:00	ADM_003	Mail	III Class	G02

```
1 row in set (0.039 sec)
```

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

```
MariaDB [peslug20cs450]> select * from peslug20cs450_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 [peslug20cs450]> select * from peslug20cs450_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 Avenue
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)
```

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

```
MariaDB [peslug20cs450]> select availability from peslug20cs450_compartment WHERE compartment_type='I Class' AND train_number=62621;
```

availability
6

```
1 row in set (0.012 sec)
```

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

```
MariaDB [peslug20cs450]> select pnr,transaction_no from peslug20cs450_payment_info WHERE bank = 'Union Bank';
```

pnr	transaction_no
PNR012	243535
PNR015	758900
PNR010	867546
PNR003	978776

```
4 rows in set (0.003 sec)
```

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

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

```
MariaDB [peslug20cs450]> GRANT SELECT,INSERT ON peslug20cs450_train.* TO 'sushanth'@'localhost';
Query OK, 0 rows affected (0.001 sec)
```

```
MariaDB [peslug20cs450]> SHOW GRANTS FOR 'sushanth'@'localhost';
```

```
+-----+
| Grants for sushanth@localhost |
+-----+
| GRANT USAGE ON *.* TO `sushanth`@`localhost` IDENTIFIED BY PASSWORD '*2470C0C06DEE42FD1618BB99005ADCA2EC9D1E19' |
| GRANT SELECT, INSERT ON `peslug20cs450_train`.* TO `sushanth`@`localhost` |
+-----+
```

2 rows in set (0.001 sec)

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

```
MariaDB [peslug20cs450]> SHOW GRANTS FOR 'sushanth'@'localhost';
```

```
+-----+
| Grants for sushanth@localhost |
+-----+
| GRANT USAGE ON *.* TO `sushanth`@`localhost` IDENTIFIED BY PASSWORD '*2470C0C06DEE42FD1618BB99005ADCA2EC9D1E19' |
| GRANT SELECT, INSERT, UPDATE, DELETE ON `peslug20cs450_train`.* TO `sushanth`@`localhost` |
+-----+
```

2 rows in set (0.001 sec)

```
MariaDB [peslug20cs450]> REVOKE update,delete on peslug20cs450_train.* FROM 'sushanth'@'localhost';
Query OK, 0 rows affected (0.012 sec)
```

```
MariaDB [peslug20cs450]> SHOW GRANTS FOR 'sushanth'@'localhost';
```

```
+-----+
| Grants for sushanth@localhost |
+-----+
| GRANT USAGE ON *.* TO `sushanth`@`localhost` IDENTIFIED BY PASSWORD '*2470C0C06DEE42FD1618BB99005ADCA2EC9D1E19' |
| GRANT SELECT, INSERT ON `peslug20cs450_train`.* TO `sushanth`@`localhost` |
+-----+
```

2 rows in set (0.000 sec)

```
MariaDB [peslug20cs450]> select * from peslug20cs450_compartment;
```

compartment_no	compartment_type	capacity	availability	train_number
F01	I Class	16	0	25260
F01	I Class	16	0	25261
F01	I Class	16	4	58450
F01	I Class	16	5	58451
F01	I Class	16	15	62620
F01	I Class	16	6	62621
F02	I Class	16	0	62620
G01	III Class	60	33	25261
G01	III Class	60	2	58450
G01	III Class	60	40	58451
G01	III Class	60	10	62621
G02	III Class	60	45	25261
G02	III Class	60	12	62621
S01	II Class	30	15	25260
S01	II Class	30	15	25261
S01	II Class	30	5	58450
S01	II Class	30	4	62621
S02	II Class	30	17	25260
S02	II Class	30	3	58450
S02	II Class	30	6	62621

20 rows in set (0.001 sec)

```
MariaDB [peslug20cs450]> update peslug20cs450_compartment SET availability=0;
```

```
ERROR 1142 (42000): UPDATE command denied to user 'sushanth'@'localhost' for table 'peslug20cs450_compartment'
```

```
MariaDB [peslug20cs450]> delete peslug20cs450_compartment;
```

```
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 '' at line 1
```

```
MariaDB [peslug20cs450]> delete from peslug20cs450_compartment;
```

```
ERROR 1142 (42000): DELETE command denied to user 'sushanth'@'localhost' for table 'peslug20cs450_compartment'
```

3. Create savepoints and perform insert/delete operations and show effect of commit/rollback.

```
MariaDB [peslug20cs450]> insert into peslug20cs450_train values(13123,'aadfs','asfafa','afaf','hjhj','dghdh');
Query OK, 1 row affected (0.012 sec)

MariaDB [peslug20cs450]> select * from peslug20cs450_train
-> ;
+-----+-----+-----+-----+-----+-----+
| train_no | train_name | train_type | source | destination | availability |
+-----+-----+-----+-----+-----+-----+
| 13123 | aadfs | asfafa | afaf | hjhj | dghdh |
| 25260 | Chennai Mail | Mail | Mangaluru | Chennai | Yes |
| 25261 | Managaluru Mail | Mail | Chennai | Mangaluru | Yes |
| 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 |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.001 sec)

MariaDB [peslug20cs450]> rollback to s1;
Query OK, 0 rows affected (0.013 sec)

MariaDB [peslug20cs450]> select * from peslug20cs450_train;
+-----+-----+-----+-----+-----+-----+
| train_no | train_name | train_type | source | destination | availability |
+-----+-----+-----+-----+-----+-----+
| 25260 | Chennai Mail | Mail | Mangaluru | Chennai | Yes |
| 25261 | Managaluru Mail | Mail | Chennai | Mangaluru | Yes |
| 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 |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.001 sec)
```