

# DBMS LAB 8

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**SECTION:** H

	Time	Action	Response	Duration / Fetch Time
1	14:08:31	SELECT @@transaction_isolation LIMIT 0, 1000	1 row(s) returned	0.00062 sec / 0.0000...
2	14:08:45	SELECT @@global.transaction_isolation LIMIT 0, 1000	1 row(s) returned	0.00027 sec / 0.0000...
3	14:10:10	CREATE DATABASE airlines_db	1 row(s) affected	0.0083 sec
4	14:10:10	USE airlines_db	0 row(s) affected	0.00027 sec
5	14:10:10	CREATE TABLE Flight ( flight_number VARCHAR(10) PRIMARY KEY, departure_time DATETIME NOT NUL...	0 row(s) affected	0.015 sec
6	14:10:10	CREATE TABLE Passenger ( passenger_id VARCHAR(10) PRIMARY KEY, name VARCHAR(50) NOT NULL,...	0 row(s) affected	0.0043 sec
7	14:10:10	INSERT INTO Flight VALUES ('SKY101', '2025-07-12 06:00:00', '2025-07-12 10:30:00', 'Delhi', 'Singapor...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.0035 sec
8	14:10:10	INSERT INTO Passenger VALUES ('P001', 'Aarav Sharma', 'Male', '1990-08-15', '9876543210', 'Window', '...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.00083 sec

## Task 2: Read Uncommitted

### Transaction A:

```
SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED;  
START TRANSACTION;  
UPDATE Passenger  
SET seat_preference = 'Aisle' WHERE passenger_id = 'P001';
```

9	14:14:29	SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED	0 row(s) affected	0.00039 sec
10	14:14:29	START TRANSACTION	0 row(s) affected	0.00022 sec
11	14:14:29	UPDATE Passenger SET seat_preference = 'Aisle' WHERE passenger_id = 'P001'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.00062 sec

### Transaction B: (From another session) :

```
SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED; START  
TRANSACTION;
```

```
SELECT name, seat_preference FROM Passenger  
WHERE passenger_id = 'P001';
```

12	14:18:40	SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED	0 row(s) affected	0.00024 sec
13	14:18:40	START TRANSACTION	0 row(s) affected	0.00073 sec
14	14:18:40	SELECT name, seat_preference FROM Passenger WHERE passenger_id = 'P001' LIMIT 0, 1000	1 row(s) returned	0.00051 sec / 0.0000...

name	seat_preferen...
Aarav Sharma	Aisle

Result Grid

Form Editor

```
SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED; START TRANSACTION;
```

```
SELECT seat_preference FROM Passenger  
WHERE passenger_id = 'P001';
```

15	14:20:21	SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED	0 row(s) affected	0.00028 sec
16	14:20:21	START TRANSACTION	0 row(s) affected	0.00018 sec
17	14:20:21	SELECT seat_preference FROM Passenger WHERE passenger_id = 'P001' LIMIT 0, 1000	1 row(s) returned	0.00045 sec / 0.000...

Result Grid		Filter Rows: <input type="text"/>	Search <input type="text"/>	Export:
seat_preferen...				
Aisle				

### Task 3: Read Committed

#### Transaction A: (Session - 1)

SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED; START TRANSACTION;

UPDATE Passenger

SET seat\_preference = 'Window' WHERE passenger\_id = 'P001';

COMMIT;

18	14:21:32	SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED	0 row(s) affected	0.00021 sec
19	14:21:32	START TRANSACTION	0 row(s) affected	0.00012 sec
20	14:21:32	UPDATE Passenger SET seat_preference = 'Window' WHERE passenger_id = 'P001'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.00043 sec
21	14:21:32	COMMIT	0 row(s) affected	0.00051 sec

#### Transaction B: (Session -2)

SELECT seat\_preference FROM Passenger

WHERE passenger\_id = 'P001';

22	14:22:07	SELECT seat_preference FROM Passenger WHERE passenger_id = 'P001' LIMIT 0, 1000	1 row(s) returned	0.00045 sec / 0.000...
		Window		

### Task 4: Repeatable Read

#### Transaction - A: (Session - 1)

SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ; START TRANSACTION;

SELECT passenger\_id, name, seat\_preference FROM Passenger

WHERE class\_preference = 'Economy';

38	14:32:09	SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ	0 row(s) affected	0.00048 sec
39	14:32:09	START TRANSACTION	0 row(s) affected	0.00020 sec
40	14:32:09	SELECT passenger_id, name, seat_preference FROM Passenger WHERE class_preference = 'Economy' L...	1 row(s) returned	0.00047 sec / 0.0000...
passenger_id	name	seat_preferen...		
P001	Aarav Sharma	Window		
NULL	NULL	NULL		

#### Transaction - B: (Session - 2)

SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ; START TRANSACTION;

```
UPDATE Passenger
SET seat_preference = 'Aisle' WHERE passenger_id = 'P001';

COMMIT;
```

41	14:33:52	SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ	0 row(s) affected	0.00026 sec
42	14:33:52	START TRANSACTION	0 row(s) affected	0.00011 sec
43	14:33:52	UPDATE Passenger SET seat_preference = 'Aisle' WHERE passenger_id = 'P001'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.00045 sec
44	14:33:52	COMMIT	0 row(s) affected	0.00073 sec

### Transaction - A: (Session-1)

passenger_id	name	seat_preference
P001	Aarav Sharma	Window

### Task 5: Serializable

#### Transaction - A (Session - 1):

```
SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE; START TRANSACTION;
```

```
SELECT COUNT(*)
FROM Flight
WHERE DATE(departure_time) = '2025-07-14' FOR UPDATE ;
```

1	20:11:52	use airlines_db	0 row(s) affected	0.00060 sec
2	20:11:52	SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE	0 row(s) affected	0.00030 sec
3	20:11:52	START TRANSACTION	0 row(s) affected	0.00017 sec
4	20:11:52	SELECT COUNT(*) FROM Flight WHERE DATE(departure_time) = '2025-07-14' LIMIT 0, 1...	1 row(s) returned	0.00061 sec / 0.0000...

COUNT(*)
2

#### Transaction - B (Session -2):

21	20:24:50	INSERT INTO Flight VALUES ('SKY505', '2025-07-14 21:00:00', ...)	Error Code: 2013. Lost connection to MySQL server during query	30.000 sec
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Transaction - A then proceeds to commit, after which successful insertion of Transaction - B takes place.

5	20:26:49	commit	0 row(s) affected	0.00043 sec
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22	20:27:01	use airlines_db	0 row(s) affected	0.00013 sec
23	20:27:01	SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE	0 row(s) affected	0.00014 sec
24	20:27:01	START TRANSACTION	0 row(s) affected	0.00012 sec
25	20:27:01	INSERT INTO Flight VALUES ('SKY505', '2025-07-14 21:00:00', ...)	1 row(s) affected	0.00062 sec

observe the time taken for the insertion (0.00060 sec)